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HOME ECONOMICS AND THE AGRICULTURAL PROGRAM[1]

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SINCE it is always dangerous not to define terms, it should be stated at the outset that the term "agricultural program" as here used refers to the generally accepted objectives which the land-grant colleges are trying to reach through their agricultural research, teaching, and extension activities for the improvement and enrichment of rural life. Similarly, home economics refers to that field of subject matter as it is set up in the land-grant colleges, with its research, teaching, and extension activities based on the improvement and enrichment of home and family living.

An article in an early number of the JOURNAL OF HOME ECONOMICS makes the point that any history of events or efforts that have tended toward the improvement of daily life in the home or its ideals will be found closely interwoven with the history of the development of the scientific attitude toward agriculture.

At one of the Lake Placid conferences, which were responsible for the birth of home economics at the turn of the century, Mr. Melvil Dewey maintained that housework was despised for the same reason that farming had been despised before science revolutionized it and raised it to the dignity of a profession; and that the application of science and art would raise the dignity of homemaking. Today we see that this has occurred. Both agriculture and home economics have had to struggle to correct the general impression that they could be successfully conducted on methods handed down from father to son or mother to daughter. Both have had to combat the general impression that the brighter boys and brighter girls of the family should be trained for one of the established professions and that the ones who could not quite make the grade for these could run the farm or the home. Thus, one point in common has been the struggle to become academically respectable.

Fairly early some of the leaders of agriculture expressed the thought that successful farming was more than successful production. Dean Davenport, dedicating the Hall of Agriculture in Maine in 1910, said, "Agriculture is not only an occupation, it is a mode of life as well, and whatever touches one [man, woman, or child] reacts powerfully on the others."

In spite of the generally accepted belief that agriculture was a mode of life not concerned solely with problems of production and in spite of the fact that home economics departments were becoming generally established after 1900, little evidence of any contribution that home economics might make to an agricultural

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program is found until after the passage of the Smith-Lever law. An earlier inkling that women might make a contribution to the agricultural program, even if in a left-handed manner, is taken from a proceedings bulletin of this Association: "I have asked women to take part in the past in our evening programs, not so much that I thought they would add anything edifying, but that their presence would help us keep out some of the undesirable things that are creeping into our meetings." Perhaps this is contribution No. 1 of home economics to the agricultural program.

That the story illustrates more than an amusing incident came out in a recent conversation with Miss Bevier. She suggested that the introduction of home economics gave the state colleges a new popularity and stronger support and that its development brought to them an idealism and a cultural element not always recognized. Previously, results had been stated largely in terms of livestock or crops; thereafter, the measure of successful agriculture was the kind of life produced.

In spite of much fulsome oratory about successful living as the aim of agriculture, that aim seems to have been so remote that it was pretty much lost sight of in working for the immediate objectives of improved agricultural practices. As a matter of fact, we are not entirely out of the fulsome oratory stage today; sentimental halos, a quavering voice, and moist eye are still more common than factual analyses of problems of rural home life. Most educators agree that remote objectives are a good thing, but only when specific mileposts are set up along the way.

If we try to think through the contributions which home economics can make to the agricultural program, probably the most obvious one will be an enlightened rural homemaker who is informed about home economics and who, as a result, is able to secure a higher level of living for her family. Analyses of several hundred home account books in Illinois are tangible evidence that home economics can make a difference. Home economics was not too highly regarded in eastern colleges twenty-five years ago, yet in 1913 a Harvard psychologist wrote that the waste of the nation's resources had aroused the conscience of the whole nation, but that the economic wastes in families through women's lack of understanding of household science was even more appalling.

Another fairly evident contribution that home economics has made to rural living (and urban living as well) has been to develop a greater respect for and an intelligent appreciation of homemaking as a profession. If agriculture is really a family enterprise, it seems distinctly important for the rural homemaker to have knowledge and understanding of the family as a center where the quality of the human element of rural life is either raised or lowered.

By and large, agricultural leaders will probably agree that their program has been rather generally concerned with production. Generally speaking, home economics has been concerned with consumption. Therefore, it would seem that the two might complement and supplement each other.

Home economics knows something about what people do and will consume, as well as about what they should consume. Many times, home economics has been asked to help use up surplus agricultural commodities. This is all right in an emergency, but we need to recognize that there is a limit to the amount the public can be urged to consume, in spite of meat weeks, cheese weeks, cotton and woolen weeks. The newer knowledge of nutrition is affecting habits of food consumption. Technological change, weather-stripped and air-conditioned houses, heated automobiles, and a hundred other things are affecting both the amount and kind of food and

fibers which the consumer needs and wants. Even the farmer, who now rides a rubber-tired tractor, is probably not eating half the slices of bread he did when he followed a plow on foot. Is there not the possibility that agriculture needs to start its thinking in terms of consumption rather than production? There is evidence on every hand that in the near future the consumer intends to be heard.

Perhaps home economics can help agriculture interpret consumption patterns and, in turn, interpret to the consumer where the best consumption values lie. The data which the Bureau of Home Economics is gathering and interpreting about food consumption at different economic levels is an outstanding example of the contribution that home economics can make to a program of agricultural production. These data show that if satisfactory diets were maintained throughout the United States, we should need a substantial increase in the production of milk, eggs, fruits, and vegetables, as well as some increase of other foodstuffs. Of course, we know that many families cannot afford such diets without a redistribution of the national income. However, many homes in which the diets are not adequate were found to be spending enough money on food to buy a satisfactory diet. This would seem to indicate that the educational program of home economics may pay dividends to agriculture. Moreover, since the Bureau finds that less than half the rural homes have satisfactory diets, there is some opportunity to direct production toward desirable consumption standards in these areas without getting involved in the redistribution of the national income.

Agriculture is interested in setting up standards for food and fiber products that will meet consumer demand. Home economics is in a position to interpret these standards to the consuming public so that it may understand better how to buy intelligently the products of agriculture. That the consumer is becoming more interested in standards by which to buy is evident on every hand.

To some extent, home economics can help agriculture devise new uses for agricultural products. Two out of many examples are the research on the use of soybeans as food at the University of Illinois and the new uses for cotton fibers developed by the Bureau of Home Economics.

Today we are hearing on every hand about planned agricultural economies for certain areas, about soil erosion and soil conservation. In many areas agriculture is planning new farm programs. Its data are based on years of research on soils and crop production, and no one can dispute the scientific way in which agriculture has gone about determining how much income a certain size and kind of farm can produce. Its data on how well the land can support a farm family are somewhat more open to question.

Not long ago I visited one of these areas and was duly impressed by the scientific approach to the soils problem. I was less impressed with the approach to a planned family living for the area and doubt if the data being used would stand muster in even a third-rate home economics department. When we asked the man in charge who prepared the family living schedules, he very proudly and naïvely said he did. When we asked what the home agent and the home economics department in the state college thought of them, he said he did not know that they had ever seen them. This example is cited not to be critical of the particular person but to suggest that since rural living is a family problem it be treated as such. Plans made for family living should be as sound as those made for soil building. Agriculture knows how much real income the land will produce; home economics knows the level

of living this income will furnish the family. Here again, the two programs can complement and supplement each other.

A fairly recent realization of the contribution which home economics can make to an agricultural program is implied but not expressed in a speech which Secretary Wallace made at Northwestern University. In commenting on Dr. O. E. Baker's prediction that by 1950 a large percentage of our population will be of rural descent, Mr. Wallace said:

> This indicates that the future of agriculture has a very great significance for the future of our civilization for if two-thirds of the people in the future are to be descended from people who now live on the land, it is important what kind of people live on the land and what traditions they have. Eventually it becomes important how they are nourished and how they are schooled.

Had Mr. Wallace been talking to home economists, he doubtless would have elaborated this point and shown that not only physical development but also emotional and social development depend largely on the family situation. Home economics in the past has given more emphasis to the application of physical sciences than to the application of social sciences. However, its farseeing leaders, from Mrs. Ellen H. Richards, the founder, to those of today, have never lost sight of the significance of the home and the family as a builder of personality and as the place where the individual gets his bent for participation in group activity outside the home. Nor have they lost sight of the fact that most behavior patterns are acquired in the home and that it is influential in determining our attitudes toward political and social affairs.

Though all this may seem remote from the agricultural program, the two are definitely related. American agricultural leaders seem agreed that agriculture is a family enterprise and that the family-sized farm is the ideal. Recently Mr. E. C. Lindeman, in discussing present trends toward a planned society, suggested that the best assurance for its achievement rested not upon engineers but upon family builders. Home economists are the chief group that have centered their thinking around the family as a unit and around family planning. Again, it would seem that home economics and agriculture might supplement and complement each other.

At this point, the question may be legitimately asked: "If home economics has recognized all this responsibility, why has it not been able to accomplish more?" A basic reason is the lack of a body of research into the science of human relations. Someone has said that the scientific aspect of familiar things is rarely obvious. Nothing is more familiar to each of us than the home situation; yet we understand little about its relation to human happiness.

The famous Morrow plots of the Illinois Agricultural Experiment Station are sixty-four years old. They are testimony to now well-known facts as to what happens to the soil in certain situations and under certain conditions. On such subjects agriculture speaks authoritatively because it has years of research behind it. Does anyone doubt that ten, twenty, thirty, or sixty-four years of research on human relations will yield reliable data that will have significance for personal and family development and thereby contribute to richer cultural living in the family and in the nation? Economic well-being is necessary for a rich, cultural living, and modern agriculture has contributed to the economic well-being of rural life. Economic well-being alone does not ensure a rich, cultural life; and it is in the other essentials that home economics should make its greatest contribution to the agricultural program of the future.

EDUCATION FOR HOME LIVING IN THE SECONDARY SCHOOLS TODAY

IVOL SPAFFORD

EDUCATION of all adolescents for home living has not been recognized by the secondary schools as a primary objective. Many interesting developments, however, are going on which may lead to such a purpose being generally accepted. Some of these efforts are to motivate the old subject matter; others are made because of a sincere desire to make education functional. Schools visited during the past year in making a study of education for home living for the General Education Board provide the basis for the present discussion.

Much general curriculum revision at the secondary level centers in the planning of an instructional core variously called a core, unified, or integrated course. The contribution of any field will naturally change as experimentation goes on. A few typical activities observed will be cited here, with the realization that these may already have been modified.

An eleventh-grade experimental group last year spent some time studying individual growth and development guided by a social studies teacher. A study of human relationships and consumer problems followed, directed by members of the home economics staff. The human relationships unit began with problems of the high school boy and girl—personality, emotional adjustment, personal hygiene, boy and girl relationships, social conduct—to be followed by adjustment problems of college, a career, courtship, marriage, and home life.

In another large city school, one hour daily in a twelfth-grade experimental program centered around practical problems of living. The home economics teacher had the group for a nine-week unit on personal and social relationships, dealing with the art of living together in the family, social and economic factors affecting family life, interdependence of home and family life, the family, and the community. The industrial arts teacher directed the study in housing; selecting a home site; purchasing, building, or renting a home; house construction; heating and fuel; plumbing and electrical fixtures; landscaping. Personal business problems, including money management, budgeting, and account-keeping, with special emphasis on the cost of going to college, were in the hands of the commercial teacher.

A third large high school, including all students in its experimental program, places greatest emphasis on educating for home living in the lower academic groups. A smaller experimental high school has the home economics teacher as a member of the staff group planning the junior high school work. Activities connected with the home are included as student needs and interests lead in that direction. One year the seventh grade studied furnishings in connection with furnishing the home economics department. Another year major attention was given to the study of foods.

Certain high schools are emphasizing adjustment to life activities. In one such school, the home economics department has been drawn into the core work for nutrition and posture in connection with health, for camp cookery with use of leisure

time, for consumer buying with community problems. Experience with babies is a part of biology in another school. In other experimental centers, interests aroused in basic courses may be followed through in the home economics, industrial arts, and fine arts laboratories. Thus, an interest in synthetic fibers aroused in science may lead to a special project in the home economics department.

Although a number of schools are experimenting with these unified courses, the present set-up at the secondary level is still largely in terms of subjects. This means that whatever is being done to educate for home living will be found mainly in subject matter offerings. Home economics is naturally the field doing most along this line. The newer emphases in home economics include the development of general courses, frequently non-laboratory, for both boys and girls; a broadening of the scope of social relationships; greater attention to consumer buying; and the use of nursery schools in connection with child development.

The new general courses are called variously social arts, social living, personal regimen, and human relations, and are planned largely for students who will very likely have no other home economics. The teacher and the girls set the goals for one such personal regimen course entirely in terms of how to do things: how to appear to good advantage, speak correctly, be courteous and have good manners, move gracefully, dress in good taste, choose correct food, spend money, entertain, choose cosmetics, choose friends, get along with people, get a position, know the advantages of particular courses.

A general course for boys alone, recognizing their concern with their personal appearance and their relationships with others, begins with personality development, good grooming, and personal relationships. This leads into selection and care of clothing and personal hygiene. Attention then turns to social and emotional aspects of sexual maturing, the boy's place in the home, his relationships to his parents and other members of his family, and his responsibilities within the home. The second semester takes up physical and mental health, food and nutrition (including preparing and serving food), courtesy, and good manners.

The trend in human relationships is toward preparation for marriage and is so recognized by the girls and the teachers. One such course offered to twelfth-grade girls deals with problems of personality, pictures of family life, boy and girl relationships, choosing a mate, and establishing a home. Many of these girls will have had other home economics work previously. Some schools are setting up a semester of work in consumer buying. Others are increasing the emphasis on buying in connection with the whole program, seeing buying food or clothing as only one aspect of feeding or clothing a family.

The availability of federal nursery schools has contributed greatly to their use in studying child development. One class of junior and senior high school boys and girls spend, in addition to one hour weekly throughout the semester, an entire day in small groups in the nursery school at the beginning and the end of the course. In another school, all junior high school students taking biology and home economics observe and certain classes in home economics participate in the activities of the two nursery schools.

The trend in the city junior high schools is very definitely toward a broad program based on a study of the girls' own needs and interests. One such program sets as its major purpose educating for wholesome, satisfying home life. Home conditions are studied, the girls' problems are discovered, and the work is modified for each group. Emphasis is on the girl and her

family and in developing those personal qualities, habits, and abilities which will help her become a more desirable, better adjusted member of the family group. Some schools, while they have been broadening content during these years, have overlooked the interest of this age group in activity and need to make further adjustments at this point.

In city senior high schools, at one extreme is the school which offers many semesters of foods and clothing study with only an occasional lesson on anything else. At the other, is one offering an eight-semester program planned to include: nutrition and problems related to foods; clothing selection, construction, and management; art in home and clothing; management of the home; food management and preparation; clothing management and construction; child guidance and human relationships. What the school offers is important; what the girl takes is even more important. Few city systems are studying their programs sufficiently from the latter point of view.

On the whole, the quality of the products finished in the city schools is good. Garments are well made and food is well prepared, especially in the later years of the senior high school. The approach to such study is, however, less functional than is to be desired. Meals are frequently the end instead of the beginning of a semester's study. Textile study is separate from making garments. Housing has scarcely been touched.

Home economics in the small-town and rural school usually represents a newer development and as a result frequently offers a broader program. Moreover, because the school's total offerings are more limited, relatively more girls take all the home economics available. In one such three-year course, the objectives and the units set up for attaining them are:

FIRST YEAR. *Objectives:* to assist each girl in acquiring an appreciation of what home economics can do for her; in solving in a satisfactory manner those present personal problems which come within the field of home economics; and in using this acquired ability to help with the work of the home. *Units:* the girl and her relationships; the healthy, convenient, happy home; the well-dressed girl; home meals; the home food supply.

SECOND YEAR. *Objectives:* to assist each girl in seeing the job of homemaking; in taking an active part in the life of her family; and in establishing ideals and acquiring abilities which will be of value later in her own home. *Units:* food preservation; health of the family; the well-fed family; social relationships; everyday art; the well-selected wardrobe.

THIRD YEAR. *Objectives:* to assist each girl in developing an ideal of and some ability in acquiring, by wise use of the resources of her present family, a well-managed home and a wholesome home life which contribute to the greatest possible development of each member of the family, and to develop within the girl some understanding of her vocational and avocational possibilities. *Units:* the well-managed home; the child in the home; improving the home; clothing the family; present-day food problems; occupational opportunities.

The problem of educating for home living and for homemaking in those schools, both public and private, which have pupils from economically privileged homes has received little serious attention. Such girls participate less in the maintenance activities of the homes than those in low-income groups. That they must learn to make whatever kind of home and home life they have, has frequently been overlooked. Some such schools see home economics as largely avocational, stressing clothing and crafts. Most of the teachers in these schools feel that the girls are not interested in money management, child development, or social relationships. Even in the few schools that have developed a broad program, only a relatively few girls take the work. The administrative officers of certain of these schools criticize the teacher education programs in home economics for directing their work at the

middle-class American home and for failing to provide the prospective high school teacher with instruments for building a program suited to the needs and interests of those she teaches, whether they be well-to-do or on relief, Indians or Mexicans, rural or city dwellers.

A constantly increasing number of home economics units and courses are offered to boys; these range from activity units in the sixth grade to courses in marriage in college. Parents favor such work for boys, and school administrators, in general, are interested in it. The keen interest of the majority of the boys in these classes shows their real concern with the problems of home living.

Study is needed to find out the greatest values within the field for boys. Many courses are patterned after work planned especially for girls. Boys have been thought to have greatest interest in foods and nutrition. Some school administrators are beginning to believe that this is because boys, like many other people, did not know the breadth of the field. Boys in at least one high school, when told that they could not have a third semester of work, advised omitting the food study of the first semester so that there would be time for more important things.

With the expansion in offerings for boys, the problem of the mixed or segregated class is being discussed widely. Teachers with successful experience in teaching boys differ greatly in their points of view. If the program is to be extended to all boys, teachers must have training for teaching boys. Even then, for most schools, evidence seems to support the segregated class at certain ages and for certain materials. Boys and girls mature at different ages. Their interests and experiences are different. In mixed classes, teachers frequently teach to the girls. Those who favor mixed classes most would have some lessons for each group alone; those who favor them least would have some for both together.

Mention was made previously that all subject matter fields are in their teaching drawing on materials related to home life. An unusually interesting development in social studies is that of an eighth-grade community civics course. Five weeks at the beginning of the year were spent studying homes and home life. The class made a two-mile tour to see homes of different types, some well landscaped, others not; some large, others small; some owned, others rented. The students visited two which were being built, one to be lived in by the owner, the other to be rented. Several housewives were asked what was involved in making a good home. A map of the town was made, blocking in roughly the sections which had good homes and those which did not. The students discussed briefly their own responsibility for life within the home, types of recreation, problems of family finance, and planned spending. From this unit the class moved on to the co-operative activities which are necessary for maintaining desirable home and community life: health, fire, and police protection, and opportunities for earning a living.

A teacher of English, becoming interested in what the twelfth-grade lower scholastic group learned about homes and home relationships, had the class read and discuss *The House of Seven Gables*, *A Goodly Heritage*, *As the Earth Turns*, *Hamlet*, *The Homemaker*, as well as short stories from magazines. The pupils studied present-day problems of housing, securing their materials from current books, bulletins, reports, magazines, and newspapers. They gave a series of national teas, finding out the home customs of different countries and the favorite dishes and how to prepare them. This teacher says that these pupils learn as much about formal English—appreciation of good literature,

oral and written composition—as they ever did, learn much that is useful about homes and home life, and enjoy English much more than ever before.

Increasingly, biology is teaching the science of nutrition. A few schools are teaching reproduction and heredity in terms of the human species. Chemistry and physics are making applications to food and clothing and the activities of the home. An interesting experiment combining science and mathematics for rural boys begins with housing. Science principles are applied directly to heating, lighting, and ventilation. All of the boys' homes are visited in advance by the teacher, and the instruction is given with their problems in mind. Science becomes valuable for the common run of students largely as it leads to understanding present ways of living and as it contributes to a richer way of life.

Mathematics, commercial studies, and economics are turning attention in varying degrees to problems of money management, budgeting, account-keeping, consumer economics, and business relationships. The work, on the whole, is theoretical, dealing with average amounts to spend for rent or food or recreation. Since mathematics is a quantitative field, consumer problems approached from the mathematical point of view are taken up as though dealing with purchasing alone. In life itself, the question of values lies behind many purchasing problems, so that qualitative thinking should accompany quantitative reckoning. Money management is an individual business and is based, in the main, on adjusting the values which the individual or family prizes most to the resources available, not all of which are financial. Actual purchasing is preceded by choice making and must be followed by using the goods or services secured.

Art has an important contribution to make in selecting and using materials within the home and in getting enjoyment from it, in selecting and wearing clothing, in preparing and serving food; but these problems do not interest most art teachers at the secondary level today.

Different points of view exist as to what industrial arts should do in educating for home living. Some teachers feel that the boy who has done woodworking, studied electrical wiring, or worked with metals will be better able to select a house in terms of materials and workmanship, even though no specific applications are made to this problem. Certain schools are stressing the recreational values to be gained from shopwork, especially for girls. A few schools offer home mechanics to girls. Some of these emphasize using tools about the home; refinishing, repairing, and reupholstering furniture; and making simple household conveniences. Housing in terms of ordinary family needs has received little attention from such teachers.

No way of earning a living is so closely interwoven with home life itself as that of farming. The food supply of most farm families is largely raised on the farm. Many home improvements are dependent upon the labor of the farm family. The recreational life of the family depends to a large extent upon the attitude of the farmer toward leisure. Most of the agricultural instruction given in the high schools today is vocational. The common belief among educators in this field seems to be that increasing the economic income of the farmer automatically improves and enriches the home life of the family. The place of education for home living in these programs is, however, of real importance.

One vocational teacher who sees this has taken as a major objective the improvement of rural home life. Landscaping of home grounds has become accepted practice in that community. The home food supply has been extended and improved. More recently emphasis has been placed

on installing waterworks and electricity and in remodeling or rearranging rooms, adding cupboards, closets, and shelves. In a county resettlement program, home economics and agricultural teachers are directing their teaching jointly toward improving rural home life. Health, food, home improvement and beautification, child development, home management, family relationships, family buying, and recreation are all seen as presenting problems of mutual concern to men and women and as demanding a place in the instruction provided for each group.

In the light of the very fine things being done to educate for home living in many home economics departments and, in lesser degree, in other fields, it may seem that the answer to the problem lies in securing the spread of these activities to a larger number of schools. Much of the work now done, however, is within a departmental framework, still fragmentary in terms of real-life problems. It is becoming increasingly clear that somewhere in education there must be application to real-life situations and to their interrelationships. This may be through the study of individual-life problems, home-life problems, community-life problems. No clear-cut distinction can or should be made between these. Increased insight and experience in one should lead to growth in ability to understand and solve problems in another. Home economics, developing its offerings in terms of its own fundamental values and no longer seeking a pattern from other fields, would seem to be the one that could best become this unifying base for dealing with home-life problems. Without doubt, science can, if it will, do a better job than home economics in teaching an understanding of science principles in terms of nutrition and home equipment, ventilation and lighting, dyes and stains. Economics can teach more successfully than home economics the principles underlying production and consumption, credit and real income. Many other fields—art, music, psychology, sociology, mathematics, English, industrial arts, agriculture—should make their special contributions; but to make this in terms of subject matter fields as now set up will never be enough.

Home economics has a second unique general contribution to make, and that is in making instruction specific, individual, personal. It is not enough to learn about the family in society, the relation of health or juvenile delinquency to housing, to apply art principles to house furnishings or dress, or the way a particular income group spends its money. The individual, in the long run, wants to know how to select a house to meet his family's needs, to feed the members of his particular family with its income and its peculiar likes and dislikes, to build a satisfying life under the individual conditions which affect him. This is the kind of instruction which home economics has been giving increasingly in recent years. It is an important contribution and one which home economics should continue to make.

PROBLEMS OF HOME ECONOMISTS IN COLLEGE EDUCATION[1]

BEULAH I. COON

IN SOME ways home economics is in a fortunate position in relation to progressive developments in education. The subject has long been called the "4th r" and has a tradition of being based on life needs. However, much time has been devoted to developing subject matter and little to how it can be made to function in student growth. We have adopted, somewhat uncritically, procedures of school and college organization which have been accepted by tradition and thought to be in line with academic standards. These procedures, moreover, have many of them been built on an outworn psychology, out of line with the needs of a democracy and unadapted to our rapidly changing social order.

The educators known as progressive have been asking: What is the place of education in this changing social situation? What does sound psychology suggest in relation to the educational process? What procedures or standards or practices should be discarded and which ones experimented with to determine their educational effectiveness? With what phases of living are youth and adults in a democracy concerned, and what is the job of education in relation to these? This group, in other words, is in the front-line trenches clarifying its own beliefs, analyzing practices, and trying out new procedures. Home economists, too, must be willing to do this if they wish to aid in solving the educational problems of modern schools and colleges. I repeat—traditional subject matter, teaching procedures, school and college organization all have to be questioned in the light of modern needs. Attention must be shifted toward studying more critically the needs of individuals and groups, especially family groups, in modern society, and to making adjustments in our educational program which will enable us to assist more effectively in meeting these needs.

When we consider the part home economics has to play in the educational development of youth and adults and the phase of living which is our primary concern, we need to decide whether we really believe the home and family are our primary concern and whether we are making them that. Many progressive educators agree that the area concerned with the home and family is of major importance in education for life in a democratic society (1, 2, 3, 4).

The first problem we need to consider, then, is the extent to which we are making, or wish to make, the home and family the major concern of our program and the extent to which we are making education in family living available to all college students. In how many of the colleges with home economics departments do the great proportion of the college students come to these departments to study, for example, family relationships, financial management, housing, and child development? If they do not come, is it because attention has been concentrated on the program for majors and on professional sequences rather than on the needs of the great majority of college

[1] Presented at a meeting of the Home Economics Section of the Association of Land-Grant Colleges and Universities, November 15, 1937, Washington, D. C.

students? By what procedures have the actual needs of these students from the standpoints of personal and home living been determined? Many colleges give more or less widely elected courses in foods, nutrition, child development, or home furnishing; but should each college not study the extent to which it can make more generally available to more college students those aspects of family life education with which home economists are especially prepared to help?

Many progressive educators and teachers of other subjects in progressive schools have not seen the contribution which home economists have to make to education basic to better family living. May this be partly because home economists have not recognized their part in the education of all youth and partly because generally in college education prospective teachers of other subjects have had too little opportunity to get acquainted with the ways in which home economics can help? How with our limited staffs can we better divide our time and efforts between the majors in our departments and those in other departments?

What of the students who do major in home economics? How well does their program enable them to see their work in the light of the problems of family life? Is a core curriculum provided, based on the many problems in modern homemaking? Or do many of our students see only limited phases of family life?

Where core materials are available to all, are they actually taught with the problems of the family dominating the courses? Or are they made up of logical sequences of subject matter prerequisite to or built upon other courses with few implications of this subject matter to homes and to family life? It is heartening, for example, to find a course on household management centered around the problems of specific families with the students studying the needs of those families, the resources available, the goals of the family and its individual members, and trying to work out the ways in which equipment and storage space, for instance, can aid the given family. But how many courses in equipment, housing, house furnishing, foods, clothing, or home management are actually taught with the problems of homemakers significantly considered? After the faculty of one foods department had described its foods courses, the resident adviser in the home management house asked: "How do you help students to use a meager amount of food money wisely? Or to use a larger amount when it is available? To organize and serve a meal when time is at a premium?"

Turning to clothing, should we not ask: Do our clothing courses tend to help students place a value on clothing which it merits in the light of other values in life? Are they aware of the very limited budgets that most families have for clothing? Are they developing judgments in family clothing purchasing problems so that they can intelligently help others get value received for money invested in clothing? If, as some critics have said, home economics teachers at the secondary school level have not seen clearly their part in education for home living, is it because their college courses have not helped them to do this?

For major students who are going into professions other than homemaking or teaching, do our guidance program and the other courses besides those in the core help them to see the contribution which each profession can make to society and to family life in that society? Does the student tend to accept as the measure of success the individual money reward she will receive? Will she value more highly commendation from the businessman who judges her efficiency by the additional money it puts in his pocket, or from the one who judges by the contribution of her work and of his business to the welfare of families

and society? Have we let the pressure of business dominate and direct our emphasis instead of deciding upon the emphasis which should be given in the light of the needs of home life?

Our second problem is involved in an idea expressed by John Dewey, the leader of progressive educators (5):

> It is the main business of the family and the school to influence directly the formation and growth of attitudes and dispositions, emotional, intellectual and moral. Whether this educative process is carried on in a predominantly democratic or non-democratic way becomes therefore a question of transcendent importance not only for education itself but for its final influence upon all the interests and activities of a society that is nominally committed to the democratic way of life.

In the same talk, Dr. Dewey makes clear his belief that the family and the school are the only groups and institutions in our society in a position to make a direct contribution to education for democracy; that "the fundamental beliefs and practices of democracy are now challenged as they have not been since the rise of democratic institutions"; and that democracy is based on a belief in the uniqueness and worth of the individual in his "right to develop his natural capacities" and in the "power of pooled and cooperative experience" as contrasted with authoritarianism as a "guide to collective action."

Our problem, then, as home economists in relation to this phase of progressive education is that of analyzing in a twofold way the contributions we are making to democracy: (1) Is the college program so organized as to provide opportunity for students and faculty to practice democratic procedures; and (2) Are our students developing desires and ability to carry on family and group activities so that a democratic way of life in these is achieved? Unless people experience democracy in family and small social groups and learn to place value on themselves and others, it is not to be expected that they will be in a position to contribute to democracy on a state or national scale.

Among the questions which we must face in relation to this problem as we consider the organization of the college program are the following: Do our colleagues and students realize that we as college administrators and teachers believe in their worth as individuals?

We must ask such specific questions as whether throughout the four-year program students are becoming more able or less able to clarify their own goals, define their own problems, and plan for experiences which will enable them to solve these problems. Are students growing in their ability to make a scientific attack on problems and to direct their own learning? Are college teachers of home economics aware of the value to the individual of participation and choice making as part of education? Or are the teachers carrying responsibilities for students, making specific assignments for all activities, and leaving students dependent and lacking in self-confidence? Are students growing in their ability to evaluate their own progress and accept responsibility for the consequences? Or is the teacher giving all tests and assigning grades without encouraging pupils to share in the evaluation procedure? Are rigid requirements prescribed in specific sequences? Or do guidance programs help individuals to recognize their strengths and deficiencies and select courses and experiences which will build on their strengths and overcome deficiencies?

Are college students being made increasingly aware of the unique place which the family holds in helping future citizens to understand and practice democratic procedures? If such procedures are not used in the families with which they are most familiar, are they being helped to see why this is? Are they becoming better able to meet such situations without conflict?

Will they know how to establish and maintain families which will be a strong asset to a democratic society?

It is scarcely surprising if we as administrators and college faculty members have difficulty in incorporating these democratic concepts into our program, for most of us have had almost continuous contact with authoritarian procedures. We have constantly met the spirit of competition between departments in the college for student interests and student time rather than co-operation to meet individual and common needs; we have been forced by numbers to think of education for the mass and have found it easy to lose sight of education adapted to individual capacities and needs. We are often parts of a form of college organization based on authoritarian principles taken over largely from business. All of this merely reemphasizes the need for the fundamental thinking about educational procedures to which we gave less attention when we were concentrating on building up subject matter.

The third problem is that of keeping abreast of economic, social, and technological changes; of the possible trends affecting home life; and of adjusting our program as a whole and in detail to these changes. The school program has usually lagged behind changes occurring in society. But progressive educators believe we must look ahead, help students to define their sense of values, and thus aid in planning for a better society. If home economics would contribute to progressive education in this way, significant changes must be made in many of our programs.

Many studies have called attention to the enormous number of changes affecting family life. Most of us are conscious of the many recent "emergency" measures or movements that affect homes. On students now in college will fall the task of making unnecessary such emergency measures. Have our programs been so adjusted that students know how various community, state, and national movements affect families? What types of family practices and traditions may need to be reevaluated? What legislative and social measures may be needed to improve conditions permanently?

How much have programs actually been adjusted to the consumer's rather than the producer's needs in economics? To the new findings of sociology? Of psychiatry? Are students in a position to face realistically and understandingly the possible effects on youth and on homes of technological unemployment? Do they recognize the influences exerted on family life by radios, magazines, movies, advertising? To use the movies as an illustration, do they realize that in Dale's analysis of pictures (6) 69 per cent were found to use ultra-wealthy or wealthy settings; that in all but 9 per cent, the ambitions of leading characters are personal rather than social? That eight out of nine items in feature pictures and news reels in 1935 touching this topic were pro-war? Are our college students being helped to evaluate clearly the new problems families are facing because of such pressures?

To use specific courses as an illustration, it is infinitely simpler to consider with students the needs of the body for various vitamins and minerals than it is to consider the more complex problem of the number of families who find it difficult to supply these in adequate amounts for family members. Yet considering the extent to which high schools now deal with the simpler, more traditional problems, should not these more complex ones be especially studied by college students? And what of clothing? Are the interrelationships between producers, manufacturers, laborers, distributors, and consumers being considered by college students? Or are we content to deal with clothing problems from a personal angle and in a way adapted

to family life in a less complex society? These and other problems must be viewed by college students on a national basis with the needs of many types of families in mind if they are to be in a position to help evolve a social order in which more satisfying family life is possible for all.

An adaptation of home economics programs to rapid social change necessitates a realistic contact on the part of faculty members with community and national problems, and also an intimate knowledge of the problems of families on different economic levels. Some administrators have found it desirable also to call in sociologists, economists, political scientists, social philosophers to discuss these problems with their staff members. Curriculum changes should be decided upon by the faculty group based on a clear-cut philosophy and on objective data. Means must be found by administrators and others concerned with college work of helping faculty members understand changing social situations and adjust programs to these.

The fourth problem is that of aiding college teachers in making their teaching practices consistent with a sound educational philosophy. College teachers have been hired generally because they knew their subject matter, and frequently little or no consideration has been given to their understanding of students and their growth. One faculty member expressed her problem thus: "This means we need to know something about method, and I don't know anything about that; in fact, I never had much work in education, and what I had didn't mean much to me." Those who did have work in education and psychology may find themselves handicapped if their psychology was of the older mechanistic type disproved by more recent findings.

Home economics administrators and teachers face the problem of clarifying both their own philosophy of education and of adjusting their procedures to the findings of psychology. Some faculties are finding it advisable to discuss, in the light of readings in educational philosophy and psychology, what they believe education really is and how practices may be made to square with these beliefs.

If they find they believe that education is an active, dynamic process, then they will be concerned to find the many kinds of experiences, whether in the classroom, on the campus, or at home, which may be meaningful to the student and call forth vital, active responses. If they believe, as most modern educational philosophers do, that education consists in pupil growth and that subject matter has value only as an aid to growth, they will be alert to every experience which will contribute significantly to the college student's growth. A teacher who believes this will not be content when a class member knows many facts but will set as his goal the development by the student of understandings sufficient to influence his behavior in using the facts, as did the teacher of household management referred to earlier.

If the teacher has not yet clarified her teaching responsibility in relation to social change, she may tend to set up a series of tried patterns, "home economics standards," a set of values to be accepted. She may tend to consider this good teaching until she faces frankly the extent to which these patterns do not work, how often these standards are not accepted but on the contrary arouse conflict when the attempt is made to apply them. If, on the other hand, she believes education should recognize the rapidity of change and take account of it in living, she will help her students to set up a philosophy for themselves and aid them in developing ability to dig for all the facts on all sides of a question before decisions are made. Many procedures, patterns, and standards will be evaluated in determining how to meet specific situations; reasons why certain values or stand-

ards or patterns have been adopted by others will be explored; and resourcefulness and creative ability will be encouraged in trying to solve problems so that the welfare both of the group and of the individual may be furthered.

Our interest in the development of subject matter and in specialization has led us to increase the number of courses available to college students in all fields and to organize most of them into a series which together makes up a logical whole. Although there is merit in organization and separate courses may be needed, what constitutes a satisfactory basis for organizing these courses and a desirable sequence between courses needs further study.

The teacher who accepts the theories of the organismic psychologist believes it is impossible to separate the individual into parts and make optimum progress educationally. As she recognizes that emotion is always present and may either furnish drive or block concentration of effort, she questions any procedures in which physical, mental, emotional efforts are not concentrated toward the same end. She realizes that a separation of these tends to cause conflicts and to lead toward lack of unity and integration. In helping the student to grow in all phases of his life and deal realistically with problems of modern life, more facts rather than fewer facts will usually be needed; and these may often be drawn from many fields instead of from the one field of a given course.

This means that all members of a faculty must know more about what the others are doing so that various fields of knowledge can be drawn upon in considering an important problem; they may experiment as some colleges are doing with more courses of several credit hours, to each of which teachers from different divisions contribute. Prerequisite courses which seem useless or uninteresting to the student may well be questioned or reorganized to make them more meaningful; classroom experiences, library work, campus, sorority, and home life interests and activities will not need to be kept in separate catagories; but all experiences need to be recognized as valuable and utilized for the student's well-rounded development.

Again, to avoid discouragement, instructors may need to remind themselves that for generations the belief in the separation of mind and body and emotions has been held and has dominated many educational programs; moreover, colleges in this country have adopted much of the theory of "humanism," which stressed "training the intellect apart from the world of affairs." Compartmentization, specialization, subject domination, logical as contrasted with psychological organization, the importance of knowledge apart from understanding, have been persistent phases of our educational organization. Many of these must be reevaluated with the child's need for development as an integrated whole in mind.

These four problems discussed above may be restated as five questions important for college groups to consider:

1. Is it possible to make more apparent in our college program a belief that education for family life is our major concern? That it should be a part of the educational program of all college students and dominate the curricula offered all students who major in home economics?
2. Is it possible to organize the program so that it makes a more significant contribution to a democratic way of life, demonstrating a belief in the worth of each individual through recognition of individual abilities, interests, and capacities, through flexibility in the curriculum and in individual course work, and through demonstrating in administrative, guidance, and teaching procedures the value of co-operation for the common good?

3. How may the program be revised so that faculty and students may become more socially sensitive and more able to lead in recognizing social changes and in making adjustments by which all groups in society may have opportunities for fuller development and greater satisfaction in living?
4. How may college teachers be aided to see student growth in the area of family life as the goal to which their subject contributes and to understand how to use the findings of psychology in aiding students to become functioning members of a democratic society? How may they be helped to set up a philosophy of education, based on these understandings, strong enough to offset tradition as a guide to practices? When we look for new teachers, how can we secure those with a sound background in educational philosophy and psychology, as well as with special preparation in some phase of home economics subject matter?
5. How may the college be organized so that it will aid the student more effectively in concentrating all his efforts on problems important to his own development and significant to society, and thus further the growing, integrative process for him?

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TERMINOLOGY OF GOVERNMENT FOOD GRADES

RALPH RUSSELL

SYSTEMS of grading commodities are usually not well adapted to the use of the consumer. They are ordinarily set up for the convenience of traders, distributors, manufacturers, and other commercial interests. Thus, the grades must usually serve other purposes than informing the ultimate user about the graded goods. Frequently the influence of special interests rather than those of the consumer himself have affected or determined grade systems.

The ordinary run of consumers, who in their purchasing draw on a relatively meager fund of information, prefer a simple grading system couched in terms they understand. A numerical or alphabetical system, in which the grades are based on factors which determine quality in actual consumption, meets this need.

Varying degrees of approach to the straight 1, 2, 3 or A, B, C systems, most readily understood by the consumer, are represented in grade systems promulgated by the Bureau of Agricultural Economics of the United States Department of Agriculture. They are illustrated in the accompanying table covering a number of goods which may reach the ultimate consumer under grade.

The first two columns of grades, representing those used for most canned vegetables and fruits, represent a straight A, B, C system. Some canned goods are graded only A and C, no B grade being recognized. The grades designated for eggs, given in the third column, reveal a supergrade or concealed top grade AA; the corresponding trade terminology "Special, Extra, Standard, and Trade" has meaning only to the informed and is of little use to the average consumer. Special or Extra might either of them be the top grade in the eyes of the consumer who knew merely that four grades existed.

The letter designations for dressed poultry indicate a concealed top grade. The corresponding terminology "Special, Prime,

Designations of U. S. grades of certain foods

GRADE	CANNED VEGETABLES	CANNED FRUITS	EGGS (RETAIL)	DRESSED POULTRY	AMERICAN CHEESE	WHITE POTATOES	APPLES	LAMB	BEEF
1..	A	A	AA—Special	AA—Special	Extra Fancy	Fancy	Fancy	Prime	Prime
2..	B	B	A—Extra	A—Prime	Fancy	Extra No. 1	No. 1	Choice	Choice
3..	C	C	B—Standard	B—Choice	No. 1	No. 1	Commercial	Good	Good
4..	Substandard	D	C—Trade	C—Commercial	No. 2	Commercial	Utility	Medium	Medium
5..		E			No. 3	No. 2	Unclassified	Plain	Common
6..		F			Cull			Cull	Cutter
7..									Low Cutter

Choice, and Commercial" when used without the letter designations are difficult to assort in their proper order.

The grades for American cheese indicate two supergrades, Extra Fancy and Fancy, followed by 1, 2, and 3. The uninitiated purchaser of No. 1 grade may not be aware that it is actually the third grade.

The grade designations for white potatoes indicate three concealed grades: the two top grades, Fancy and Extra No. 1, as well as Commercial, which lies between No. 1 and No. 2. The purchaser of U. S. No. 1 potatoes is buying the third grade, while the purchaser of No. 2 is getting the fifth grade.

The grades for apples also indicate a mixture of types of grade terms. The only numbered grade is the second grade, No. 1, above which is Fancy and below which lie Commercial, Utility, and Unclassified. This leaves out of consideration the Early, Combination, and Hail grades.

In the grades of lamb, the purchaser of the stamped meat gets no indication as to which is the top grade. Prime, Choice, and Good are the grades commonly met with by the consumer; but unless otherwise informed he may purchase Choice or even Good with the idea that it is the top grade. While numerical designations have been given for lamb and mutton grades, they carry a concealed top grade, A-1. Moreover, they do not appear on the stamp with which the meat is marked. Similarly, the grades of beef are confusing. Good and Medium, for example, might either of them be thought the higher grade by the casual purchaser, and consumers would not know that Choice represents second-grade beef.

A striking difference is observable in certain grades of goods which do not reach the ultimate consumer under grade designations. Hay and dry beans, for example, are graded 1, 2, and 3 and wheat from 1 to 5. This is not always true of trade terminology, however, as witness, for example, the grades for cleaned Virginia-type peanuts in the shell: Jumbo, Fancy, Extra Hand-picked.

Why do we find these differences in grading systems among grades promulgated by the same government department and even within the grades established by the same division or section of a bureau? There are, of course, a multiplicity of reasons, and among them is the influence of trade practices which often reflect a desire to use no grade term which may seem to reflect unfavorably upon the commodity so classified. There is no question but that there are adequate grounds for such a feeling. When goods are graded solely on the basis of quality as it affects the ultimate consumer, one of the lower grades may still be the best grade for certain purposes. Where gradations are made solely with reference to the needs of the consumer, they may conflict with a scale adequate for assorting the commodity for some other purpose. In such cases, the grade terminology may reflect differences in quality for one purpose accurately but not for another.

One purpose of grades is to bring back to the producer the enhanced price of higher quality goods. Otherwise, the monetary incentive to the production of goods of better quality may be lost, as has frequently happened. The number of grades necessary to effect this purpose may be greater than the number which would satisfactorily meet the needs of the ultimate consumer. The solution of the dilemma thus presented is difficult, and probably a completely satisfactory solution is impossible. It may be necessary to have more grades than the consumer can readily distinguish and fewer than would best serve the interests of the producer. Government grades were instituted to serve as a basis for trading between farmers and middlemen. Such grades could hardly be expected to be adequate for consumers' retail buying.

The prevalence of concealed top grades

or supergrades has received attention. It is argued, and justifiably, that if only an insignificant percentage of a product meets the most exacting standard, then the large percentage falling in the next lower grade is unduly penalized by an unmodified alphabetic or numerical grade system. Very few potatoes are graded to meet Fancy specifications. The highest grade most consumers will find is U. S. No. 1. Therefore, why not call the second grade U. S. No. 1 rather than U. S. No. 2, since the bulk of the deals will be in that grade? U. S. Special eggs are rarely found on the market. Prime beef is scarce and expensive. Why, then, give the second grade of eggs or beef a name that may indicate inferiority? This thesis has validity, without doubt; but is it in the best interest of the consumer? At best, it represents a compromise between the aims of producers, distributors, and consumers. Might they not all be better served in the long run by an unequivocal 1, 2, 3 system? The question is difficult to answer.

Trade resistance is undoubtedly the major factor which has caused the Bureau of Agricultural Economics to adopt so many different systems of grade designations. It has often been thought better to adopt a plan which, although imperfect, might have general acceptance rather than to adopt a straightforward 1, 2, 3 system which might never be widely used. Once grades are adopted by an industry, they may be gradually changed in the direction of more rational systems. The policy as to types of grades has been determined differently at different times, and it is not certain what is the best procedure. The character of the industry involved and the nature of the interests engaged in it have considerable effect. Consumer use of the grades adopted has been a minor consideration from the start. In the instance of canned fruits and vegetables, there was a general resistance on the part of the trade to the use of the terms A, B, and C. Certain interests dominating the national association of canners have tried to substitute what they call "descriptive labeling" for bona fide grade designations. Their attempts to confuse the public on this issue were for a time successful. Now, however, the use of grades is rapidly gaining ground, and the distribution of these canned goods may soon be mainly on the basis of a straightforward system which largely reflects quality as the consumer knows it.

Grades of meat, on the other hand, reflect trade terminology and are difficult of interpretation by the ultimate consumer. Nevertheless, the trade has been relatively slow to adopt the meat grades, and only an amount equal to 4.4 per cent of federally inspected slaughter was graded in the year ending June 30, 1937. Nevertheless, livestock growers recently proposed the compulsory use of federal grades in marketing beef and veal. This suggestion was endorsed by a large group of retail meat dealers, and some effort is being made to enact a law to this effect. Even when adoption is fairly general, however, the grades may still be uninformative.

If grades are to help the consumer and therewith the producing and distributing industry, a process of gradual alteration of the terms may be necessary. More desirable terminology and more resistance or less desirable grade designations and less resistance is thus one of the dilemmas to be faced in promulgating grades. The United States Department of Agriculture has used both approaches. Time will shed more light on the effectiveness of each.

THE RELATION OF NUTRITION TO THE DEVELOPMENT OF SOUND TEETH[1]

E. NEIGE TODHUNTER

ONE of the most challenging problems in the field of health today is that of finding the cause and cure for dental caries. Much experimental work has been performed and many theories have been advanced to explain the incidence of this disease, which affects the teeth of 95 per cent of the school children of this country, according to a report at the White House Conference on Child Health and Protection in 1932. Several excellent reviews of the subject have appeared in the last few years (1, 2, 3), and this paper will, therefore, discuss only some of the more recent findings.

It is recognized that there is a close relationship between diet and the incidence of dental caries and that in certain countries and localities the people appear to be immune so long as they follow their native dietary habits (4, 5, 6, 7). In the most primitive groups of Eskimos the incidence of dental caries was found to be one tooth per thousand teeth examined; but in districts where the native diet had been largely replaced by flour, sugar and sweetened foods, dried foods, and polished rice, the incidence of caries was 13 per cent. The same has been found true among Indian tribes in various parts of Canada. In the communities living in isolated high valleys in Switzerland the incidence of caries was found to be 4.6 per cent of the teeth examined; this is in striking contrast to a group living at the popular resort of St. Moritz, where 29.8 per cent of the teeth were found to be carious (8). In the isolated regions of the outer Hebrides of the west coast of Scotland, only 1.2 per cent of caries was found, but in sections where the so-called modern foodstuffs were readily available the incidence of caries was 30 per cent. Also, in the Southern Pacific isolated Polynesians had only 0.32 per cent caries, while for those living in and around the ports and using white flour, cereals, and sugars in their diets the figure was found to be 21.9 per cent (8).

The people of the lonely island of Tristan da Cunha have unwittingly served as an interesting demonstration of the relation of diet to dental caries. In 1932, when a dental survey was made, 83 per cent of the community of 163 people were found to have clean teeth free from decay. Toothbrushes were never used, and though the diet was high in carbohydrate, very little cereals or sugars were used. The staple foods were potatoes, fish, and some meat, with green vegetables and turnips as long as they lasted; milk was used freely (9). In 1937 another dental examination was made. In the intervening five-year period the population had risen to 183 and the number of ships visiting the island had increased, bringing sugar, flour, and a certain amount of luxuries, including candy, for distribution on special occasions. The proportion of mouths found to be free from caries is now only 50 per cent, with the increase in dental disease occurring in children and in adults up to 45 years of age (10).

[1] This paper is based on the work of the students of the nutrition seminar of the College of Home Economics, State College of Washington. An extensive bibliography on the subject is on file in the seminar library, only a few items in which are referred to here.

While dental caries is not a new disease, Rabkin (11) states that in primitive man it was largely due to excessive attrition of the teeth and exposure of the pulp with consequent abscesses at the apexes, but caries and decalcification were definitely less than in contemporary man. Ferguson (12) in a recent report of the examination of 4,602 white recruits to the United States navy showed that men from the farming districts of the South and West were dentally far superior to those from the populous, industrialized centers of the North and East and that this could be explained by dietary differences.

Possible differences in composition of the teeth of different individuals have been investigated (13, 14). Armstrong and Brekhus (14) have reported that they could find no correlation between composition of enamel of the tooth and susceptibility to decay or to age of eruption of the teeth; nor could they find differences in the composition of the enamel of carious and non-carious teeth. That some teeth are more susceptible to caries than others has been demonstrated by Cohen (15), who studied 2,554 children from 2 to 15 years of age; he found that the upper and lower first permanent molars were the first to be affected and that by 10 years of age 80 per cent of the lower first permanent molars were defective. In the deciduous teeth, 70 per cent of the molars were defective in the average child of three years of age.

Mottled enamel of the teeth is a problem in certain parts of the country due to the presence of fluorine in the drinking water. Contrary to earlier reports, it has been found (16) that where the fluorine content is high the temporary teeth may also show mottling. However, so far as is known, teeth with mottled enamel exhibit no greater liability to caries than do normally calcified teeth (17).

Theories as to the cause of dental caries may be classed in two main groups: those that are concerned with environmental factors, and those dealing with metabolic or physiological causes. Convincing experimental evidence in support of any of these theories has been difficult to obtain because no one would wish deliberately to subject children to conditions which would produce caries; and though many studies have been made with children, it is usually impossible to control all factors or to study the group for a sufficiently long period. The results from animal experiments are not all directly applicable to human subjects, since their teeth are not the same.

Environmental theories. The oral condition has been considered by some to be the most important factor related to prevention of caries. "A clean tooth cannot decay" was for a time a popular slogan; but many native races have never seen a toothbrush and yet have sound teeth, and many persons who take advantage of all means of oral prophylaxis still have caries. Brushing the teeth is a desirable hygienic measure, and the stimulation of the gums may help to maintain the health of the gum tissues. Jones and co-workers (18) have reported that unerupted teeth can decay; and this would lend support to the theory of a metabolic rather than an oral factor being the cause.

The presence of lactobacilli in the mouth is believed by Ann Arbor investigators and others to be closely related to the problem (19, 20). The lactobacilli have been reported to be numerous in the mouths of carious patients and absent from the mouths of non-carious patients. Other research workers (21) making similar investigations have found some relationship between caries and the presence of B-acidophilus, although the evidence is not entirely convincing.

Recent studies at Ann Arbor (22) showed that the amount of sugar in the diet influenced the number of bacteria in the mouth. In a group of 51 children per-

mitted to have all the candy they wanted for five months, 31 per cent showed an increase in dental caries and also an increase in the lactobacilli count; those susceptible to caries showed a lowered bacterial count when kept on a diet low in sugar.

There is much experimental evidence in favor of this theory, but it is not accepted by all (23). Rettger (24) states that it is extremely difficult to distinguish B-acidophilus from streptococci of the mouth, and others (2, 24) report that they found acid-producing bacilli in large numbers in caries-free mouths; it is possible that bacteria other than B-acidophilus may be the causative factor (25). Until there is a generally accepted technique for collection, identification, and quantitative measurement of the bacteria of the mouth, it is not possible to determine whether or not the presence of B-acidophilus is a cause of dental caries. Present evidence is conflicting; and this theory does not explain why, of two proximal teeth, one may be decayed and the other not, or why many subjects are observed to have unclean mouths and teeth covered with films of microorganisms and yet show no dental caries.

Hawkins (26) has been one of the chief exponents of the theory that the pH of the saliva is a factor in dental decay, but other investigators (2) have reported that their biochemical studies on saliva have afforded no evidence that there is any significant difference in the pH, the titratable alkalinity, or the calcium and phosphorus content of saliva of caries-free and caries-susceptible individuals. On the other hand, Krasnow (27) in a tabulation of the findings in the literature since 1909, found lack of agreement among investigators and some indication that these factors were correlated with caries.

It is not unreasonable to expect that since caries begins on the outside of the tooth, the salivary conditions may in some way be closely related to the incidence of dental decay. Improved microchemical methods of analysis may yet show consistent differences in the saliva of various individuals.

Metabolic theories of dental caries. Calcium and phosphorus in the form of carbonates and phosphates make up 95 per cent of the enamel and 70 per cent of the dentine of the teeth; therefore, these materials must be supplied in the diet and deposited normally in these amounts and in the correct ratio if the teeth are to be sound and strong (28). Mellanby has shown that hypoplastic teeth are more susceptible to decay than sound ones and decay more rapidly once caries has set in.

Boyd and co-workers (24, 29) believe that the ability of the human system to retain calcium and phosphorus is a factor in resistance to caries. They found evidence for this in metabolic studies on a group of 98 children kept on diets which were believed to be optimum. At the beginning of the study, the children were grouped as follows: (1) those with no cavities in their teeth, (2) those with inactive caries, and (3) those with progressive caries. The average daily retention of calcium per kilogram of body weight was 17 mg. for the children of the first group, 15 mg. for the second, and 10 mg. for the third; the corresponding averages for phosphorus retention were 14 mg., 11 mg., and 9 mg. The markedly higher retention by those who were free from caries suggests a definite relation between ability to retain calcium and phosphorus and freedom from caries.

Certain of the vitamins are known to be concerned in the fixation of calcium and phosphorus; vitamin D helps to mobilize these minerals; and vitamins C and A help the odontoblasts of the tooth in laying down dentine (30, 31). The importance of vitamin C in normal tooth development is well recognized and forms the basis of the Höjer method of measuring the vitamin

C value of foods. Many investigators consider that inadequate supplies of vitamin D are the chief cause of dental caries. Extensive researches by Mrs. Mellanby have been an outstanding contribution to the study of this subject and have done much to stimulate other workers. Following Mellanby's work, the committee on dental disease (32) appointed by the Medical Research Council of Great Britain made a comprehensive investigation over a three-year period on the effect of adding or withholding vitamin D from the carefully controlled diets of some 1,550 children living in three different institutions. The conclusion was that "a relatively high vitamin D content of the food can do much to diminish the incidence of caries if the vitamin is given during the development of the teeth; that a beneficial effect may be obtained if the vitamin is given at a fairly late stage of development; and that even when it is given after the eruption of the teeth, the onset and spread of caries is delayed."

Toronto investigators (33) also found vitamin D to be effective in reducing the incidence of caries. Children in two orphanages were divided in groups, some receiving the regular diet and others receiving the same diet with added vitamin D for a period of one year. The added vitamin D was effective in reducing the number of new cavities per child among those of from 3 to 10 years of age but had no effect on the teeth of the children of from 11 to 16 years of age. Confirmation of this is offered by other workers (2, 34), though some still question the importance of this vitamin (35).

The acid-base balance of the diet has been reported by Jones and co-workers (36) to be a factor; in a study of people living in Hawaii, only those individuals whose diets had high alkaline value were found to be protected from caries. Evidence contrary to this is offered by other workers (37), and Ker (38) questions whether Jones has put the right interpretation on her data. He points out that people with beriberi have excellent teeth, though they live mainly on rice and therefore have an acid diet.

The evidence thus far discussed shows that there is no agreement as to the cause and prevention of dental caries. However, there is convincing evidence that diet and the incidence of dental caries are closely related. At the Forsyth Dental Infirmary for children (39) it was found that when the children followed the prescribed diet caries was reduced, while among those children who failed to follow dietary instructions caries increased. Dietary studies were reported by the Columbia University dental caries research group (2), and it was found that children of from 8 to 14 years of age living in an institution showed arrest of caries in from 40 to 60 per cent of the cases when improvements in the basal diet were made.

Drain and Boyd (40) state that their investigations over the past several years have demonstrated convincingly that endogenous or metabolic factors are basic to the control of dental caries. They believe that an adequate diet is the most efficient means of supplying the necessary metabolic factors. They state, "It is our belief that the integrity of the tooth is dependent upon the adequacy of the diet in all respects and that probably the health of the tooth can be impaired through the inadequacy of any one of several essentials." Drain and Boyd make definite recommendations that the following foods be included in the daily diet of the average child of from 5 to 16 years, and that for younger children the same foods should be used but in appropriately smaller quantities: one quart of milk; one egg or more; one serving of meat, fish, chicken, or liver; two vegetables, one-half cup servings of each; one orange, apple, or tomato and one additional fruit;

one teaspoon of cod-liver oil; six teaspoons of butter; other foods such as bread, cereal, and potato may be added to satisfy the appetite and to maintain weight but must not be used to replace any of the abovementioned foods.

Summary and conclusions. From the experimental evidence available certain conclusions may be drawn regarding the development of sound teeth.

The tooth is a living structure and therefore is affected by the body metabolism and subject to the possibility of decay at all ages.

The specific cause of dental decay is not known, but there are many theories regarding this problem. The main theories may be grouped in two classes: (a) that dental caries is caused by environmental conditions of the teeth—the presence of lactobacillus acidophilus or other organisms in the mouth cause tooth decay, and these bacilli are favored by a high carbohydrate diet; (b) that caries is the result of metabolic disturbances due to the absence of one or more dietary factors. The tooth, at least in its early developing stages, has been shown to be influenced by the amount of calcium and phosphorus and of vitamins A, C, and D in the diet.

Present evidence indicates that several factors, probably both metabolic and environmental, are concerned in the prevention of tooth decay. There is convincing evidence from many laboratories that dental caries can be arrested by dietary means; and therefore it is concluded that a diet high in minerals and in vitamins and with an adequate balance of proteins, fats, and carbohydrates is the best recommendation for the development of sound teeth and the prevention of dental caries.

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SIGNS OF THE TIMES

A THIRD SHELF OF HOME ECONOMICS RESEARCH

SYBIL L. SMITH

Once again the Office of Experiment Stations presents its annual "two-inch shelf" of state agricultural experiment station publications of interest to home economists. To borrow another phrase from Alexander Woollcott, this might be called the "O.E.S. Third Reader," for similar lists for the preceding two years appeared in the February issues of the JOURNAL in 1936 and 1937. Because of the special interest now felt in what are rather loosely referred to as "consumer problems," reports which bear more or less directly on these are this year marked with an asterisk.

O. E. S. THIRD READER

Food Selection and Purchasing

*Potatoes from the Consumer's Standpoint, M. D. SWEETMAN and L. M. DAKIN. Me. Agr. Coll. Exten. Bull. 230 (1936), 20 pp.

*A Study of Price Differences in Retail Grocery Stores in New York State, L. DOMAN. [New York] Cornell Agr. Expt. Sta. Bull. 665 (1937), 52 pp.

*A Study of Quality Demands in Household Buying of Food, M. I. LISTON. Vt. Agr. Expt. Sta. Bull. 415 (1937), 39 pp.

Food Consumption of Wisconsin Relief Families, M. L. COWLES. Wisc. Agr. Expt. Sta. Stencil Bull. (Feb. 1937), 27 pp. Abstracted in Wisc. Agr. Expt. Sta. Bull. 438 (1937), pp. 15–17.

Food Care and Preparation

Peanut Meal: Food Value and Uses, L. ASCHAM. Ga. Agr. Expt. Sta. Bull. 195 (1936), 18 pp.

Starting Baked Products in Cold Versus Preheated Ovens, L. J. PEET and B. LOWE. Iowa Agr. Expt. Sta. Research Bull. 213 (1937), p. 89–124.

Care of Meat in the Household Refrigerator, L. J. PEET. Iowa Agr. Expt. Sta. Research Bull. 215 (1937), pp. 157–188.

Using Minnesota Apples, A. M. CHILD and R. H. BRAND. Univ. Minn. Agr. Exten. Special Bull. 185 (1937), 24 pp.

The Effect of Temperature and Time of Cooking on the Tenderness of Roasts, S. COVER. Tex. Agr. Expt. Sta. Bull. 542 (1937), 61 pp.

Food Preservation and Composition

*The Effect of Processing on Vitamins in Fruits and Vegetables: A Review, C. R. FELLERS. Mass. Agr. Expt. Sta. Bull. 338 (1936), 23 pp.

Vacuum-pressure Relationships in Glass Canning Jars, C. R. FELLERS, A. S. LEVINE, and W. A. MACLINN. Mass. Agr. Expt. Sta. Bull. 341 (1937), 20 pp.

Experimental Results on the Preservation of Fruits and Vegetables by Freezing: A Progress Report, E. H. WIEGAND. Oreg. Agr. Expt. Sta. Circ. 122 (1937), 14 pp.

Vitamin B in Lamb Tissues and Organs, M. KELLOGG. S. Dak. Agr. Expt. Sta. Bull. 306 (1936), 43 pp.

Food Advertising

* Facts, Fads and Frauds in Nutrition, H. S. MITCHELL and G. M. COOK. Mass. Agr. Expt. Sta. Bull. 342 (1937), 31 pp.

Textile Fibers and Fabrics

* Analysis of Some Staple Cotton Materials Used Extensively for Children's Clothing, O. SMENNER. Ark. Agr. Expt. Sta. Bull. 350 (1937), 38 pp.

The Effect of Exposure in the Field on Grade, Strength, and Color of Raw Cotton, M. A. GRIMES. Tex. Agr. Expt. Sta. Bull. 538 (1936), 35 pp.

Family Economics

Occupations of Sons and Daughters of Mississippi Cotton Farmers, D. DICKENS. Miss. Agr. Expt. Sta. Bull. 318 (1937), 132 pp.

A Study of Relief Activities in Seven Nebraska Counties; 1927–1934, L. H. STOTT. Nebr. Agr. Expt. Sta. Research Bull. 89 (1937), 24 pp.

Index Numbers of the Cost of Goods and Services Bought by Farm Families in New York, 1920 to 1935, H. CANON and M. ROLLINS. [New York] Cornell Agr. Expt. Sta. Mem. 199 (1937), 23 pp.

The Rural Home Maker in Southern Rhode Island as a Paid Worker, M. WHITTEMORE and B. M. KUSCHKE. R. I. Agr. Expt. Sta. Bull. 259 (1936), 32 pp.

Household Equipment and Arrangement

* A Study of Ovens Used for Domestic Cooking Purposes, G. M. REDFIELD. Ind. Agr. Expt. Sta. Bull. 416 (1936), 20 pp.
* Selection, Operation and Care of Electric Household Equipment, G. M. REDFIELD. Ind. Exten. Bull. 215 (1937), 12 pp.
* The Utilization of Heat from Electric Surface Units by Certain Cooking Utensils, L. J. PEET and L. O. MACDONALD. Iowa Agr. Expt. Sta. Research Bull. 212 (1937), pp. 61–68.
* Evaluation of Certain Factors Affecting the Cost of Using Utensils on Electric Heating Units, M. M. MONROE. Me. Agr. Expt. Sta. Bull. 386 (1937), pp. 53–155.
* Selection and Use of the Electric Iron, P. B. POTTER and F. H. BASS. Va. Agr. Expt. Sta. Bull. 307 (1937), 30 pp.

A Study of Selected Types of Domestic Gas Stoves, A. E. BARAGAR. Nebr. Agr. Expt. Sta. Research Bull. 86 (1936), 74 pp.

* Selecting Your Gas Stove, A. E. BARAGAR. Nebr. Agr. Expt. Sta. Circ. 55 (1937), 20 pp.
* A Study of Efficient Kitchen Arrangement, G. M. REDFIELD. Ind. Agr. Expt. Sta. Bull. 418 (1937), 29 pp.
* Standards for Working-Surface Heights and Other Space Units of the Dwelling, E. H. ROBERTS, M. WILSON, and R. THAYER. Oreg. Agr. Expt. Sta. Bull. 348 (1937), 38 pp.; Wash. Agr. Expt. Sta. Bull. 345 (1937), 38 pp.

The list contains several more publications than that of a year ago, the increase being particularly marked in the section on Household Equipment and Arrangement. An interesting illustration of practical co-operation is the publication of identical bulletins by the Oregon and Washington Stations reporting a piece of co-operative research. As noted last year, most of the publications in the list can probably be secured from the experiment stations.

The annual compilation of titles of research projects and publications is again available in the mimeographed publication "Research in Home Economics at the Land-Grant Institutions, 1937–1938," which can be obtained on request at the Office of Experiment Stations, U. S. Department of Agriculture, Washington.

HOME ECONOMICS TRAINING FOR HOME SERVICE

PRUDENCE S. CONNOR

Conversations something like these may be overheard frequently in the home service department of almost any utility company:

Hello, Home Service Department.... Yes, Mrs. Brown, the cooking school meets at 8 o'clock tonight.... You are welcome.

Hello, Home Service Department.... Good morning, Mrs. Chase.... Yes, indeed, we will be glad to send a girl to your house tomorrow afternoon at 3 o'clock to help you check your lighting.

So varied are the questions which must be answered and so accurate the information which must be given not only at the office but also at demonstrations or in visiting the homes of patrons, that it is desirable to have girls with good special training on the staff of the department. As a result, Syracuse University through its College of Home Economics has developed a curriculum to train girls for this part of the business field.

Since some girls are more naturally suited to a business career than others, the prospective students hear talks by women in the business world and are then advised by individual faculty members who point out some of the qualifications necessary to business success. If the student and faculty agree that the girl possesses the necessary traits, she is encouraged to enroll in the business course.

Desirable qualifications for the work are:

Attractive personality
Ability to meet and get along well with people and inspire confidence and co-operation
Good taste in dress and good grooming
Good stage presence and pleasing voice
A good background and sound knowledge of subject matter, whether it be nutrition, cookery, home lighting, kitchen planning, or any of the other branches of work included
Managerial and business ability
Ability to plan and organize
Good health
Originality
Energy
A flair for the dramatic
A sense of humor

In order to fit the girl for such a wide range of duties, her courses are chosen from several divisions of the University. In the College of Business Administration she learns such things as accounting, business management and organization, advertising and selling. In the home economics department she is trained in foods and nutrition, applied art, and household technology. The liberal arts faculty broadens her cultural background with both elective and required courses in English, economics, sociology, psychology, and science. In fine arts she delves into architecture and art appreciation. Still other courses supply the needed training in speech and radio technique, while courses in composition, journalism, and advertising develop ability to write articles, publicity, and advertising.

In order to gain practical experience in organizing and using her knowledge, the student takes a course in demonstration practice, where her knowledge of food, nutrition, cookery, and household appliances and techniques is put into practice. By studying demonstration methods, observing commercial demonstrations, and herself giving demonstrations to class and outside groups, a girl gains confidence and ability. This experience also affords opportunity for both the girl and her instructor to recognize and remedy her deficiencies.

An attempt is made to furnish as much commercial experience as possible while the girl is still in college. This is done by having her accompany home service workers in home calls, assist radio cooking-school operators, attend classes held at home service conferences arranged by manufacturers and by providing opportunity to work at various apprenticeship jobs. The commercial experience and background which the girl gains in this way aid in developing the correct point of view for her future work.

Thus, by the time the prospective home service girl approaches graduation, she knows the field open to her, has learned how to apply for a position, and has had ample chance to judge and be judged as to her fitness and aptitude for her future work.

OFFICE HOUSEKEEPING

LAURA B. HADLEY

A very successful executive said recently, "I judge the people whose offices I visit by the condition of their desks. I believe the order with which a person manages her papers and materials is an evidence of the orderliness of her mind." Whether or not this last statement is true, our desks, like our clothes, do speak for us. Like good clothes, too, a well-arranged, orderly desk contributes remarkably to the efficiency and satisfaction with which we work.

One of the most vexing of our routine problems is the management of the materials we use in our work: books, pamphlets, mimeographed materials, advertising matter, catalogs, correspondence, notes on work that is unfinished or pending, papers submitted by students, notes and plans for

classwork, records, supplies. Of course, any home economics department needs a system for filing and storing the many and varied materials that it uses; and for this not only bookcases, cupboards, and filing cabinets are necessary but also promptness and regularity in filing and storing. In addition, there are the multifarious things which the individual teacher or administrator has to have at hand; and it is for the convenient handling of these that a few suggestions are here offered.

Unless we have a systematic plan for handling these materials and adhere to it faithfully, our desks become piled so high with books and papers and look so unsightly that we have no space for work and waste time and patience hunting for what we need. Papers about important jobs get covered up and forgotten or lost entirely. The work of our colleagues, superiors, and students is interfered with because of these lost papers or unfinished jobs.

We excuse ourselves by saying that we have more to do than we can manage, that filing takes time, that we have insufficient clerical help. The truth is, it really takes less time and effort to keep things in order than to live with them in disorder. To achieve this satisfying result, there are at least three essentials: (1) a workable classification of materials, (2) a definite plan for caring for each type of material, and (3) a faithfully followed routine for keeping materials in order. If, in addition, one can have a little fairly competent help, the task will be easier; but such assistance is of little use without planning and system. Whatever the system adopted, materials used constantly and frequently should be within reach while working at the desk, usually stored in the desk drawers or in a small filing case within reach. A "work organizer" of the sort found in office-supply establishments, a box (perhaps covered with wallpaper and shellacked) of the size and shape to hold Manila folders, and a two-tiered wire basket are helpful supplements to the desk space.

The classification and arrangement of materials described in the following paragraphs have served the author's purpose but are in no sense original.

1. *Student papers.* Those received from students are placed in the lower tray of the wire basket on the left corner of the desk; those ready to return to students, in the top tray. This plan is particularly satisfactory if students have free access to the office and can leave and take the papers themselves.

2. *Supplies and other materials in constant use.* Office supplies, personal supplies, class books and cards, card-file bibliography, unfinished jobs of current work (that is, work on which something is to be done at least within the week), and notes for courses being taught now are kept in specially assigned places in the desk. For example, small office supplies, such as pencils, pens, clips, thumb tacks, rubber bands, may go in the front of the long, shallow middle drawer, perhaps in one or two specially arranged compartments; personal belongings, such as purse and powder, in the top left-hand drawer; letter paper and envelopes, in the top right-hand drawer; and so on. Each person can work out her own plan; the essential is to assign a place for everything needed, to eliminate everything else, and to keep everything in its place.

3. *Materials needed for frequent reference throughout the year.* These include such things as communications with administrators and colleagues, notes for dictation, notes for courses, bulletins and notices, papers about jobs that continue over a long period, such as work on a curriculum revision committee. They can usually be kept in well-labeled Manila folders, which, in turn, may be filed in a work organizer, in a small box within easy reach, or in a

desk drawer deep enough for the folders to be held upright.

Folders should be provided for the following:

1. *Pending business.* This folder should be kept on top of the work organizer or box file or in the front of the deep drawer. It should be examined regularly each day, so that the jobs indicated will be taken care of as required. Here may also be placed items which will need attention soon, such as notices and programs of meetings.

2. *Assistant or clerk.* Such a folder will usually be marked with the clerk's name, and she will look in it regularly for copy and directions. It should be kept next to the "pending" folder.

3. *Business of the department.* Here will go such papers as current, unpaid bills; unfinished reports to principal or supervisor; memoranda of equipment, books, and service needed. Permanent materials are of course cared for in the large office file.

4. *Current communications and correspondence with persons dealt with frequently.* These should be kept in individual folders arranged in alphabetical order. When material from these folders is no longer frequently needed, that which has permanent value should be put in the business file of the department.

5. *Materials to be filed.* This folder should be filed daily. In it are assembled the things that are to be transferred to the general files. If a good system is in operation and if the materials are marked so that anyone can tell where they belong, an able assistant can do much of the routine transferring. It is advisable to have a regular place (box, drawer, folder) into which things of this sort may be slipped when they first come in and kept until they can be looked over. The stuff will become a white elephant, however, if it is not taken care of regularly and promptly; the things that are worth keeping should be properly marked and put in the "to be filed" folder, and the rest should be discarded. Often articles are filed which should have been burned. Doubtless the opposite is equally true.

6. *Personal.* A folder should be provided for personal or semiprofessional items which it is convenient to keep at school.

7. *Students.* In some cases there may be a place in the office file for a folder containing pertinent data for each student. Even so, it is frequently convenient to have closer at hand current notes about individual students. These should be kept in a special place in the desk and filed and discarded regularly.

A few general suggestions may help further in keeping the desk in order with the top free for work:

1. Keep nothing on or in your desk that you do not use regularly. This includes books as well as papers.

2. Keep trinkets on your desk at a minimum. Keep pencils, erasers, ink, pins, thumbtacks, rubber bands inside the desk. The small tray or compartment, with divisions, in the middle drawer solves this problem.

3. Form the habit of putting things where they belong. Don't lay them on your desk to "put away later." It is just as easy to put them in the right place first and it takes no more time, if there is a convenient place to put them. Put the letter you just read into the "dictation" folder if it requires an answer, into the "to be filed" folder if it does not. Put the examination papers just brought from the H.E. 1 class in the folder or the drawer marked "H.E. 1." Put the book you have finished using back on its proper shelf, the illustrative material in the "to be filed" folder, box, or basket.

4. Take care of these folders every day: "pending," "dictation," "to be filed."

5. Do not let materials that you are not using accumulate in any drawers or folders. Remove to the large office files finished reports and studies or papers about jobs which you are putting aside for a time.

6. Train an assistant to do routine tasks.

7. Have your desk top perfectly clear when you leave the building each day.

No detailed rules can be drawn up to keep desks in efficient order under all conditions; as with one's wardrobe, general principles must be adapted to individual needs. To work out and follow some simple system which makes it easy to find things, not only saves time and worry but gives a wonderful sense of accomplishment.

EDITORIAL

PITTSBURGH PLANS

Among the items in her 1938 budget, every good home economist has undoubtedly listed "professional advancement." If it is in any way possible, she is probably hoping to include here a trip to Pittsburgh for the annual meeting of the American Home Economics Association, June 28 to July 1. If she likes also to attend the big summer National Education Association meeting, she will realize gratefully that this year the latter is to be held in New York City, only a night's run from Pittsburgh, and that the home economics meetings in Pittsburgh will not really get under way before those of the Department of Supervisors and Teachers of Home Economics in New York are about over. If she comes across the continent or has never been in that part of the country before, she may decide to consider the trip as belonging partly under another item in her budget, the one labeled by some such word as "travel" or "vacation." If she is farsighted she will remember that it is easier to break than to make a hotel reservation when the time draws near for a crowded conference, and will choose and write to her hotel as soon as she has read the list in her February *Bulletin*. If she is still inclined to procrastinate, perhaps a few hints as to how the program is developing will rouse her to this simple and sensible action.

If she arrives on Tuesday, she can see to her registration and get her tickets for special functions, perhaps pay a first visit to the exhibits and take some of the trips arranged by the local committee without feeling that she ought to be at a meeting. That is, unless she is a member of the council, in which case she will find herself down for a full afternoon's work. The local committee seems to have something pleasantly diverting up its sleeve for the evening.

Wednesday morning the professional meetings begin in earnest. Divisions are scheduled for Wednesday afternoon and Friday morning, and departments for Wednesday morning and Thursday afternoon. Enlightened self-interest should lead each member to identify herself more or less closely with one of these and tend out regularly on its sessions, the one for business as well as those for papers and discussions. Unless a group of this sort is reasonably stable and responsible, it cannot hope to get very far, either in discussion or in organization.

Two public evening meetings are scheduled, one for Wednesday and one for Friday evening. At the first, Mrs. Burns and Frances Zuill, the present and a past president of the Association, are to speak; there may be "collusion" in their choice of subjects, but they can be trusted to keep near the central theme for all the sessions, which is "Long-time Planning in Home Economics."

Friday evening's program will be a panel discussion on some such topic as "Trends in Education." Taking part will be well-known representatives from both general and home economics education.

Thursday evening is reserved for the banquet. For arranging this the Association is as usual shifting the responsibility to its hostesses, who always seem willing and fully competent to handle the difficult job.

HOME ECONOMICS AT ATLANTIC CITY

The program of the fourteenth semi-annual meeting of the Department of Supervisors and Teachers of Home Economics, National Education Association, was outlined on page 35 of the January JOURNAL. We are glad now to be able to give the names and subjects of the speakers at the two sessions and the banquet, all to be held at the Hotel Dennis on Saturday, February 26, 1938.

The morning session begins at 9:30 with a half-hour business meeting. At 10:00 A. S. Chenoweth, superintendent of Atlantic City public schools, will bring greetings to the Department, after which there will be two papers: one on "Building a Philosophy of Home Economics Education" by Emma Wetzel of Muncie, Indiana; and "Making Home Economics Function in an Integrated Program" by Evelyn Herrington of Scarsdale, New York. These will be followed by a discussion of "Trends in Home Economics Education."

"State Plans for the Use of the George-Deen Funds in Developing Home Economics" will be considered at the afternoon session. Ruth Freegard, state supervisor of home economics in Michigan, and Mrs. Anna G. Green, chief of home economics education in Pennsylvania, will speak on what is being done in their states; and Edna P. Amidon of the Home Economics Education Service, U. S. Office of Education, will follow with "Underlying Factors in the Development of Home Economics in Vocational Education."

The after-dinner speakers and their subjects will be Marion S. Van Liew, chief of the Home Economics Education Bureau, New York State Education Department, on "The Home Economics Teacher Looks to the Administrator," and DeWitt Morgan, superintendent of schools in Indianapolis, on "The Administrator Looks to the Home Economics Teacher." Reservations should be made with Miss Ethel Powell, School Administration Building, Atlantic City, New Jersey. The price of the dinner is $2.25.

AMERICAN ASSOCIATION FOR HEALTH AND PHYSICAL EDUCATION

The formation of the Department of School Health and Physical Education in the National Education Association was commented on editorially on page 566 of the October JOURNAL. Further developments about reorganization were given out in December through the following news release:

On June 28, the American Association for Health and Physical Education, a department of the National Education Association, was formed by a merger of the American Physical Education Association and the Department of School Health and Physical Education of the N.E.A. This merger marked the consummation of efforts of many educators in both groups to unite the efforts and coordinate the interests of health educators, physical educators, and recreation leaders, and to give them a common meeting ground within the N.E.A.

The new Association will continue to publish the *Journal of Health and Physical Education* and the *Research Quarterly*. Through its three newly organized Divisions of Health Education, Physical Education, and Recreation, with a number of working sections under each, it will give unity and leadership to these phases of the school program. In the near future the Association office will be located in the National Education Association building in Washington, D. C.

Membership in the Association is open to all those who are professionally interested in health education, physical education, recreation, and related fields. Active membership, including subscription to the *Journal of Health and Physical Education*, is $2. Professional membership, including subscription to the *Journal* and the *Research Quarterly*, is $5. There are also special membership rates for professional students, and a life membership at $80. Membership fees may be sent to the present offices of the Association, 311 Maynard Street, Ann Arbor, Michigan.

HOME ECONOMICS AND THE AGRICULTURAL PROGRAM

Although the paper by Mrs. Burns which opens this issue of the JOURNAL was written with a rather specialized audience in mind—the members of the Association of Land-Grant Colleges and Universities—home economists who heard it felt that it was of more than enough general home economics interest to appear in their official magazine. This was not merely because of the compliment which the conservative and rather male-dominated Land-Grant Association paid the American Home Economics Association in inviting its president (who is also, of course, an outstanding figure in home economics extension) to appear on the same program with Secretary Wallace, but because what Mrs. Burns said about the past and future relations between home economics and agriculture bears directly on the role of home economics in our rural and, indeed, our national economy. Her presentation of the importance of home economics in planning for agricultural production and for the success of individual farm families finds parallels in progressive thinking about the place of home economics in an integrated educational program.

RADIO AND HOME ECONOMICS

Home economics, like most divisions of the educational field, is naturally interested in radio as a new means for spreading its gospel. How to use home economics in radio is one of the questions on which the American Home Economics Association is most frequently asked to furnish information. Since 1931, the Association has had a committee on home economics in education by radio (alias the radio committee) which has functioned sometimes more, sometimes less actively.

One of its first concerns was naturally to help home economists who found themselves called on to enter that mysterious, uncharted region known as "on the air." For this purpose, it arranged conferences on home economics in education by radio at several Association meetings. What Morse Salisbury said at the one in Atlanta in 1932 about "Writing the Home Economics Radio Program" is still worth looking up in the JOURNAL for November of that year. Three years later, when Ruth Van Deman was chairman, the committee brought together the symposium on "The Home Economics Radio Talk: Pointers on Script Writing, Program Planning, and Broadcasting" for the issue of November 1935.

Meanwhile, home economists had become concerned about what was going on the air under the name of home economics, not only in programs plainly intended to promote the sale of this, that, or the other household commodity, but also in programs supposed to be disinterested and "educational." In 1933 the committee co-operated with the United States Office of Education in a questionnaire survey in which broadcasting stations generously, though often somewhat confusedly, gave information about their programs on homemaking topics. At the same time, the home economics in business department of the Association studied what its members were doing in radio. The summary of these two studies which appeared in the JOURNAL for October 1933 now seems chiefly notable as showing how casually things were developing and how few of the 342 stations which replied showed much concern over the factual quality of the home economics information given. In rereading the report, one is conscious that much water has flowed under the bridges in the last four years. Nevertheless, a few sentences in the closing paragraphs are still timely:

> The replies and letters received from the stations suggest that if a home economist is not satisfied with the quality of homemaking information given

over the air, she can help the situation by discussing the difficulty sympathetically and constructively with the station. Of course she can do this more effectively if she takes the trouble to consider the special problems of radio program building and technique. And she can encourage the broadcasting of better programs by expressing her appreciation of those of which she approves, and telling exactly wherein she thinks they excel. . . .

There is a wealth of home economics subject matter still only barely touched on in radio programs. Many home economists who go on the air would welcome the help and advice of the professional radio broadcaster in matters of script writing and manner of presentation before the microphone. They need coaching and they know it. And on the part of the broadcasting station a closer canvass of the sources of reliable home economics subject matter backed up by real assistance in putting it over would lead to programs which would better hold the confidence and attention of listeners.

One of the burning questions in educational broadcasting is whether or not education on the air would be better served if special legislation were passed to promote it, perhaps by assigning special wave lengths for its use, perhaps by some control of programs. The American Home Economics Association has not taken active part in discussions of this, though representatives attended the long hearings held in 1934 before the Federal Communications Commission and the JOURNAL has tried to make at least brief mention of important developments.

Educational procedures to be used in broadcasting make another phase of the question which home economists have been inclined to leave to the specialists in that field. However, the Association has shown its interest by appointing delegates to important conferences, such as those called annually at Ohio State University by the Institute for Education by Radio and, more recently, the National Conferences on Educational Broadcasting.

The conferences at Ohio State University seem to deal more specifically with practical problems and experimentation with different ways of using radio in education. The two National Conferences, on the other hand, have apparently been intended more to arouse public interest in the general subject and to develop an underlying philosophy for the guidance of those interested in it. The proceedings or yearbooks of these conferences are probably the most convenient and reliable means of keeping up with opinion and technical developments in this complicated subject. The seventh number of *Education on the Air*, as the yearbook of the Institute for Education by Radio is called, was noted on page 265 of the JOURNAL for April 1937, while the first volume from the National Conference on Educational Broadcasting is briefly described on page 52 of the January 1938 issue. In another book noted last month (page 50), the American Association for Adult Education summarizes what has been done in *Fifteen Years of Adult Education on the Air*.

NATIONAL CONFERENCE ON EDUCATIONAL BROADCASTING

The second National Conference on Educational Broadcasting was held last month in Chicago, and the Association was represented by its president, Mrs. Kathryn VanAken Burns, and this year's chairman of the radio committee, Mrs. Zenobia B. Ness. Considerable time was devoted to the question "Should we continue the status quo of radio broadcasting, or should the government have some stake in it?" This naturally boiled down to the old question of individual and corporative initiative vs. government control; and although almost every speaker took a shot at it, the conferees when they left were probably "of the same opinion still." Advertising by radio was also frequently mentioned. Mr. Merrill Denison seemed to feel that most people took it with the tongue in the cheek

and that it was not so bad as the "cultural blight" which seems to permeate radio programs. He suggested that if broadcasting is to be respectable it must learn to respect the listener.

In discussing actual educational broadcasts, there was general agreement that classroom technique will not apply and that educational broadcasting needs experimentation in educational institutions and radio workshops. Again and again the idea was expressed that while a popular approach is needed for educational broadcasting, it must always be with the observance of cultural niceties. There was considerable discussion as to whether the public wants education sugar-coated in dialogue or drama or merely in the form of information interestingly presented. Of those who took part, the younger ones seemed to want stirring drama, while the older ones preferred their information straight.

THE ELIXIR SULFANILAMIDE CASE

Hardly anyone in the United States can have escaped hearing about the disastrous poisoning caused last autumn by the consumption of this preparation and the quick and effective action taken by the U. S. Food and Drug Administration to prevent its further use. At the request of the Senate, Secretary Wallace prepared a report on the whole case, which has been published as Senate Document No. 124, 75th Congress, 2d session, and may be obtained on request to any member of Congress or to the U. S. Food and Drug Administration. The opening paragraphs read:

During September and October of 1937 at least 73 persons died as a direct result of taking the drug known as "Elixir Sulfanilamide." Twenty other persons who took the "elixir" died, but it has not yet been established that this drug was exclusively responsible. The 93 deaths occurred in 15 States, as far east as Virginia, as far west as California.

"Elixir Sulfanilamide" was manufactured and sold by the S. E. Massengill Co., of Bristol, Tenn. According to the firm's books, 240 gallons were manufactured. The entire amount has been accounted for.

Before the "elixir" was put on the market, it was tested by the firm for flavor but not for its effect on human life. The existing Food and Drugs Act does not require that new drugs be tested before they are placed on sale.

"Elixir Sulfanilamide" was first distributed commercially on September 4, 1937, and continued to October 15, 1937. The first word of deaths from an unidentified sulfanilamide preparation reached the Food and Drug Administration on October 14. On October 16 an investigator for the Administration telegraphed from Tulsa, Okla., that nine persons had died there after taking "Elixir Sulfanilamide." Seizure of all outstanding shipments was immediately ordered.

Since the Federal Food and Drugs Act contains no provision against dangerous drugs, seizures had to be based on a charge that the word "elixir" implies an alcoholic solution, whereas this product was a diethylene glycol solution. Had the product been called a "solution," rather than an "elixir," no charge of violating the law could have been brought.

Of the 240 gallons manufactured, 228 gallons and 2 pints have been seized under Federal and State laws, destroyed, collected as laboratory samples, or wasted by spillage and breakage. Eleven gallons and six pints were dispensed on prescriptions or over-the-counter sales. Of this amount, about half was consumed and caused the deaths; the other half was retrieved before consumption.

The lethal effect of the "elixir" was due to its content of diethylene glycol, which was used as a solvent in making a liquid preparation of sulfanilamide, usually administered in tablet or powder form. Sulfanilamide itself is a valuable drug, and was not responsible for the disaster.

Sulfanilamide is the name of one of a group of closely related chemicals first reported in European medical literature of 1935 to have been used for drug purposes. It has shown dramatic curative effects. Physicians in this country have been quick to recognize its far-reaching possibilities. Its use has grown to tremendous proportions. An editorial from the *Journal of the American Medical Association* . . . shows that sulfanilamide is potentially dangerous but that properly used it may be brilliantly successful in treating various infections.

The fatal "elixir" was rushed onto the market without adequate test to determine whether or not diethylene glycol may be safely used as a solvent for sulfanilamide, despite previously published reports

in scientific literature showing that diethylene glycol might be dangerous when taken internally. A few simple and inexpensive tests on experimental animals would have quickly demonstrated the toxic properties of both diethylene glycol and the "elixir."

A reproduction of the label shows that "the preparation is a semisecret one, that the presence of diethylene glycol is not disclosed, and that no warning of danger appears." Secretary Wallace reports that "most of the drug was administered on physicians' prescriptions."

The fact that our present Food and Drugs Act furnishes no sure protection against the marketing of such a dangerous product has shocked the country almost as much as the actual tragedy. The fact that the Food and Drug Administration could act only on the technicality about the definition of elixir would be comic if it were not literally horrible. The public is in no mood to submit further to such dangers, and Congress will not dare much longer to postpone action to prevent them.

That the case has come at a time when people are already so much concerned over food and drug legislation may prove either fortunate or unfortunate. It will be fortunate if it promotes the prompt passage of a measure to give the public the kind and amount of protection which disinterested consumers have been advocating. It will be unfortunate if a bill to correct this special danger only is quickly passed and the enemies of the wider protection publicize that one measure as doing all the public demands. It behooves the friends of true protection to watch developments closely and to be ready to act the moment the call comes.

CODES AND BETTER HOUSING

Newspaper items about state and local housing and health conditions often contain references to such things as building, health, housing, and zoning codes. To the ordinary citizen these seem rather confusing and may suggest unnecessary red tape. In reality, each is intended to prevent danger to the community by controlling specified conditions. In some cases they may have been poorly drawn or gone so long unchanged that they no longer fit actual conditions; there may be room for minor improvements and adjustments. The special interest which the public is now showing both in local reorganization and in improved housing conditions may make this an opportune time for a community to see if its codes are adequate for present needs. Be that as it may, home economists will perhaps be glad to read these definitions taken from the December *Housing Letter* of the Washington Housing Association:

A *zoning code* controls the development and use of private property by dividing the community into zones, for each of which it specifies the permitted uses, proportions of lot that can be occupied, height of buildings, traffic lines, etc., in the interest of the people.

A *building code* deals with buildings as buildings and controls the use of materials, equipment, etc., in the interest of structural safety. It should deal with fundamental principles rather than with inflexible specifications which prevent the use of improvements developed by science and invention.

A *housing code* has to do with buildings as dwellings and deals with light, ventilation, room arrangement, space, protection against fire, vermin, etc., in the interest of the occupants and their healthful living.

A *health code* deals with insanitary conditions throughout a community from the standpoint of public health. It also includes strict regulations on handling of foodstuffs, use of common towels, drinking cups, problems of stagnant water, etc.

Zoning codes are probably the ones least often met, and some of those that do exist do not fit the present situation. To be really useful they must be forward-looking and in harmony with well-considered plans for community development. In fact, some authorities now advocate that no

public funds should be granted for extensive building projects unless the latter are part of a general long-time community plan and properly protected by zoning and other ordinances.

FELLOWSHIPS FOR 1938–39

Notices and application blanks about the two research fellowships offered by the American Home Economics Association were sent out early in January by the committee on fellowship awards. One of these is the Ellen H. Richards fellowship, supported by the income of a fund in memory of Mrs. Richards and at present carrying a stipend of $650. The other is a gift of $600 from the honorary home economics fraternity Omicron Nu. The same qualifications apply to both. This year no special division of the home economics field is designated for either award, but the committee suggests that applications be encouraged from promising workers in divisions not recently recognized in awards, for example, housing and consumer education. Regarding the purpose of and qualifications for the fellowships the announcement says:

> These fellowships are regarded as high honors to be conferred upon women who are prepared to carry on research in one of the subject matter divisions of home economics—family economics, family relationships, the house, foods and nutrition, textiles and clothing, or home economics education.
>
> A candidate must have shown superior ability in home economics as an undergraduate, must show evidence of successful performance since graduation, and must hold at least one degree from an institution of recognized standing. In addition she must have had graduate work or experience in some phase of home economics, supported by a related field, must show research aptitude to serve as background for her investigation. She must secure an application blank from the chairman of the committee on fellowship awards and return it properly filled in and accompanied by a recent photograph and an outline of the proposed investigation. This outline should include the general title of the problem, its scope and significance, and tentative methods of study.

Applications must be in the hands of the committee by March 1, 1938. Full information and application blanks may be obtained from the chairman, Dr. Paulena Nickell, Home Economics Division, Iowa State College, Ames, Iowa.

A home economics fellowship administered through the University of Washington is the Bon Marché fellowship, now in its seventeenth year. Originally the stipend was $600, but since the depression it has been reduced to $500. It is granted by the Bon Marché department store of Seattle, and a graduate of any home economics department in the country may apply. The award is made by Miss Raitt, head of the home economics department at the University, and Miss Denny, the first holder of the fellowship and a well-known worker in the field of textiles. The Bon Marché fellow spends eleven months in residence at the University of Washington studying for her master's degree, and while doing so tests merchandise from the store in the textile laboratory on the campus. This service is used by the store's advertising and merchandising divisions and also by the adjustment bureau. Twice a year the fellow assists with Silk Week at the store by demonstrating tests and giving talks. Applications for 1938–39 are now being accepted and should be addressed to Miss Effie I. Raitt or Miss Grace G. Denny, University of Washington, Seattle, Washington.

RESEARCH

FACTORS IN THE ECONOMICAL OPERATION OF AN ELECTRIC REFRIGERATOR

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INTEREST in the question of the relative effects of certain practices in the use of an electric refrigerator led the research department of home economics at State College of Washington to make the tests reported in this paper. Points included were: (1) frequency of opening the refrigerator door, (2) variation in the length of time the door was opened, and (3) variation in mixtures to be frozen.

To maintain uninterrupted standardized conditions, all tests were carried on in the laboratory. Two boxes, each slightly over 5 cubic feet in capacity, were used. The Fahrenheit scale was employed, as is customary in refrigeration work in this country.

Standard conditions were established at the beginning of the experimental work. The empty refrigerator was placed about 12 inches from an inside wall, well removed from all heat radiation and unusual air currents. Thermometers and a thermograph indicated the room temperature, which was kept between 70° and 72°F. during the test period. A potentiometer with iron-constantin thermocouples showed temperatures within the freezing mixtures. An indicating wattmeter in the line of the refrigerator was read at the beginning of each minute of the running period of the motor; in the short testing periods this permitted greater accuracy than an integrating meter. The time of running was read in seconds on a stop watch. A voltmeter indicated any change in voltage during the test period.

The number of kilowatt hours of energy consumed during a test period was calculated at the end of the period by multiplying the average of the wattmeter readings by the time in seconds and dividing this product by 3600 x 1000.

The first tests made were intended to determine the average hourly power consumption of the closed and empty refrigerator. They were all made on the same refrigerator. Before they were begun the refrigerator had been kept closed for 24 hours or more and the temperature of the room had been maintained at approximately 70°F. Each set of tests was for a period of several hours, during which the door was opened at different intervals and kept open for different lengths of time. The schedule of openings was as follows:

Opened at 15-minute intervals and kept open for 30 seconds
Opened at 15-minute intervals and kept open for 1 minute
Opened at 15-minute intervals and kept open for 2 minutes
Opened at 30-minute intervals and kept open for 3 minutes
Opened at 1-hour intervals and kept open for 4 minutes

The average results for three sets of these tests are given in table 1.

From these data, it is seen that the running time of the motor ranged from 21.1 to 27.8 per cent of the total period. The difference in intervals between the opening of the door made it vary only from 23.7 to 24.2 per cent, which indicates little difference in power requirement. Variation in the length of time the door was kept open caused more change in the running time of the motor and in power requirement than did variation in the frequency of opening the door. Increasing the length of time the door was open from 1 to 4 minutes increased the running time of the motor by 6.7 per cent of the total and increased the average power consumption 10 watts per hour. The table also shows that when figured for a 30-day period this increase would amount to almost 5 kilowatt hours; this would affect the monthly cost noticeably where rates are high.

TABLE 1

Average power consumption for maintaining the inner temperature of an empty electric refrigerator when the door was opened at different intervals and for different lengths of time during 3-hour tests

POSITION OF DOOR	ROOM TEMPERATURE	POWER CONSUMPTION PER HOUR	PROPORTION OF TOTAL PERIOD DURING WHICH MOTOR RAN	CALCULATED POWER CONSUMPTION	
				For 24 hours*	For 30 days
	degrees F.	*kw. hr.*	*per cent*	*kw. hr.*	*kw. hr.*
Closed throughout period	71–72	0.040	17.1	0.960	28.80
Opened at 15-minute intervals for 30 seconds	71	0.048	21.1	0.944	28.32
Opened at 15-minute intervals for 1 minute	71	0.053	24.2	1.060	30.18
Opened at 15-minute intervals for 2 minutes	72	0.058	27.8	1.104	33.12
Opened at 30-minute intervals for 2 minutes	70	0.055	23.9	1.080	30.24
Opened at 1-hour intervals for 4 minutes	71	0.055	23.7	1.080	30.24

* Including 8 hours under the special condition noted and 16 hours at the rate for the closed refrigerator.

Similar but not identical tests with a second refrigerator gave similar results.

In the freezing tests the materials frozen were water for ice cubes and mixtures for grape ice, ice cream made of custard and whipped evaporated milk, pineapple mousse, and maple parfait. All ingredients were measured by weight, and the same quantities were used for all tests with each material. The same tray was used on the same quick-freezing shelf throughout the freezing tests. The cold junction of the iron-constantin thermocouple was held in the center of the mixture near the surface by means of twisted heavy rubber bands stretched from end to end of the tray. The potentiometer indicated the temperature of the mixture in the tray. The initial temperature of the mixtures was approximately 67°F. They were frozen with the refrigeration control set at 2, the normal operating position, and the time was noted when the temperature reached the point found to be the most satisfactory as the final temperature for the mixture in question. These temperatures lay between 18° and 22°F.

The amount of power needed for freezing the mixtures was arrived at by subtracting from the total number of kilowatt hours consumed the number required to keep the empty refrigerator at about 26°F.,[1] which was 0.055 kilowatts per hour. It was found that the motor of the empty refrigerator ran on an average 25.6 per cent of the time when the door was closed and the thermostat set at the same temperature as used for the freezing tests.

Table 2 shows the power requirements for freezing water and the different dessert mixtures. These figures are averages of those from three or more tests made with each material in the same refrigerator.

[1] See footnote to table 2, p. 113.

TABLE 2

*Average figures showing power consumed in freezing approximately the same volumes of different mixtures**

MATERIAL	WEIGHT	INITIAL TEMPERATURE	FINAL TEMPERATURE	TIME REQUIRED FOR FREEZING	POWER CONSUMED		
					Total for freezing period	Maintaining temperature in empty refrigerator	For freezing only
	grams	*degrees F.*	*degrees F.*	*hours*	*kw. hr.*	*kw. hr.*	*kw. hr.*
Water for ice cubes	700	67	18	2.29	0.242	0.126	0.116
Grape ice	808	67	22	2.50	0.238	0.137	0.101
Ice cream	490	67	19	2.71	0.211	0.149	0.062
Pineapple mousse	434	67	19	2.35	0.188	0.129	0.059
Maple parfait	326	67.5	19	1.60	0.139	0.088	0.051

*Thermostat not regulated for domestic refrigeration temperatures.

Considered from the practical standpoint, the time required for the different desserts varied little, except that the maple parfait required less time than the others. Freezing mixtures which contained whipped cream or whipped evaporated milk required the least additional power. Freezing water for ice cubes required the most.

PRACTICAL SIGNIFICANCE OF RESULTS

Some of these laboratory experiments were planned to show how opening the door of the electric refrigerator affects the power used, while others dealt with the amount of electricity used in freezing water and different desserts. Opening the door for a few seconds, even if it was done fairly frequently, did not increase the current used as much as holding the door open less often but for a longer time. It took more electricity to freeze water for ice cubes than to freeze desserts. Less current was needed to freeze desserts made with whipped cream or evaporated milk than those which contained more water.

THE VITAMIN C CONTENT OF CONNECTICUT HOME CANNED TOMATOES

E. CHARLOTTE ROGERS AND DORIS B. MATHEWS

Connecticut State College, Storrs

THIS study was undertaken to answer a question so often asked the nutrition specialist in the Extension Service: Why had the doctor specified that the baby be given commercially canned instead of home-canned tomato juice?

Tomatoes home grown and home canned during the summer of 1936 were collected, ripe and were canned in glass jars. The majority were processed according to the directions given in federal or state government bulletins (1, 2). In two cases the cooking time was shortened from 35 minutes to 20 to 25 minutes, and three lots were pressure cooked.

Commercially canned tomato juice of Beechnut brand, rated B by Consumers' Research (3) was used for comparison with the home-canned fruit. Sixty cans holding 12½ ounces were purchased in dozen lots from a local store.

TABLE 1

Results of biological assay of 7 samples of commercially and home-canned tomatoes

METHOD OF CANNING	WEIGHT OF GUINEA PIGS		WEIGHT OF SUPPLEMENT	HISTOLOGICAL FINDINGS*	SCURVY SCORE
	Initial	At end of 90 days			
	grams	*grams*	*grams*		
Commercial	300	580	3	Slight capillary congestion of adrenal cortex	+
Commercial	300	500	3	Slight congestion in cortex and medulla	+
Home	300	415	3	Lesions in incisors; small capillary hemorrhage	+
Home	300	459	3	Lesions in incisors; small capillary hemorrhage	+
Home	300	545	3	Lesions in incisors; small capillary hemorrhage	+
Commercial	300	410	4	No lesions of any kind	−
Home	300	485	4	No lesions of any kind	−

* Acknowledgment is made to Dr. Erwin L. Jungherr, Connecticut State College pathologist, for the histological work.

After any jar had been opened and practically emptied, it was kept in the electric refrigerator at 7°C. Any remaining after three days was discarded. The samples of home-canned tomatoes were prepared for

a few cans at a time, as they were needed throughout the experimental period. A questionnaire was sent to the people contributing tomatoes, and some information was gained regarding the canning process, the varieties used, and the condition of the fruit at the time of canning. It was not always possible to get information regarding the varieties. The tomatoes were used

testing by straining through a wire sieve of the kind frequently used in the household for that purpose.

Seven guinea pigs were used in the biological assay made by the method of Sherman, La Mer, and Campbell (4). Three pigs received as a supplement to the basal ration 3 gm. of home-canned tomatoes; 2 received 3 gm. of the commercially canned; the other two received 4 gm. of the home-canned and 4 gm. of the commercially canned juice, respectively. Sixty-one cans of the home-canned tomatoes were collected from seven of the eight counties of Connecticut.

Sixty cans of commercially canned tomatoes were also assayed biologically. The results of this work are shown in table 1.

The method of Bessey and King (5), with slight modification, was used for the chemical assay. In addition, one lot of home-canned and one of commercially canned tomatoes were tested according to the method of Tripp, Slatterfield, and Holmes (6). In all, 88 tests were made on 7 lots of tomatoes. Table 2 shows in condensed form the results of the chemical assay.

Summary and conclusion. The ascorbic acid content of the commercially canned tomatoes ranged from 0.073 to 0.174 and averaged 0.138 mg. per gram; that of the home-canned ranged from 0.091 to 0.21 mg. per gram and averaged 0.139 mg. per cc.

The guinea pigs receiving 4 cc. of the tomato juice or, according to the chemical assay, from 0.55 to 0.56 mg. of ascorbic acid, were completely protected from scurvy. This result correlates closely with Sherman's findings (7) that 0.5 mg. of ascorbic acid is necessary to fully protect a guinea pig from scurvy for 90 days and to prevent lesions of the teeth.

Miscellaneous lots of Connecticut home-grown and home-canned tomatoes were found to have on the average an ascorbic acid content fully equal to that of a good grade of the commercially canned tomatoes.

TABLE 2

Ascorbic acid content of commercially and home-canned tomatoes, determined chemically

TYPE OF CANNING AND COUNTY OF ORIGIN	METHOD OF PROCESSING	NUMBER OF SAMPLES	ASCORBIC ACID PER CC. OF FRUIT		
			Minimum	Maximum	Average
			milligrams	*milligrams*	*milligrams*
Home canning					
Middlesex	Pressure cooker, 10 lb., 15 min.	4	0.091	0.128	0.111
New London	Open kettle, 20 min.	4	0.115	0.154	0.134
Tolland	Hot water, 20 to 25 min.	6	0.144	0.210	0.167
Fairfield	Conservo, 45 min.	8	0.120	0.151	0.133
Fairfield	Pressure cooker, 10 lb., 5 min.	17	0.150	0.174	0.141
Hartford	Pressure cooker, 10 lb., 5 min.	4	0.121	0.143	0.129
Commercial canning					
Lot I	—	9	0.120	0.174	0.148
Lot II	—	12	0.073	0.135	0.113
Lot III	—	10	0.121	0.165	0.143
Lot IV	—	4	0.168	0.174	0.169
Extracted method					
Fairfield	—	5	0.121	0.154	0.143
Commercial	—	5	0.121	0.165	0.145

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6. TRIPP, FRANCIS, SLATTERFIELD, G. HOWARD, and HOLMES, ARTHUR D. Varietal differences in the vitamin C (ascorbic acid) content of tomatoes. J. HOME ECON. 29 (1937) p. 285.
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BOOKS AND PERIODICALS

NEW BOOKS

Materials Prepared by Participants in the Home Economics Group of the Progressive Education Association Summer Workshop. Columbus, Ohio: Progressive Education Association, Evaluation in the Eight Year Study, Ohio State University, 1937, 147 pp., $1.

In working up this material, ten teachers of home economics from different parts of the country, under the leadership of Ivol Spafford, Ellen Miller, and other members of the Progressive Education Workshop at Sarah Lawrence College, were concerned with three major purposes: "First, to consider the importance of education for home living and the contribution of home economics to general education; second, to consider curriculum problems and prepare curriculum units for particular needs of students; third, to clarify the meaning of objectives in terms of the behavior of students and develop instruments of evaluation calling for this type of behavior."

In these times of need for particularly careful thinking in relation to the place of education for home living in the school curriculum, the report is especially significant. The materials developed by this group are illustrative of techniques and points of view rather than finished products, but they should be provocative to persons concerned with education for this area of living at the elementary, secondary, or college level, including school administrators, teacher trainers, and teachers.—HESTER CHADDERDON, *Iowa State College, Ames.*

How Fare American Youth? By HOMER P. RAINEY and others. New York: D. Appleton-Century Company, Inc., 1937, 186 pp., $1.50.

A brief preliminary, popular statement of findings of a five-year study of "current problems in the care and education of our thirty million young persons between the ages of 12 and 24." The investigation is being carried on by the American Youth Commission of the American Council on Education by means of a grant from the General Education Board. The chapter headings of the present volume are: "The Youth Among Us," "Youth and Jobs," "Youth and the Schools," "Youth and Health," "Recreation for Youth," "The Plight of Rural Youth," "Negro Youth," "Youth and the Home," and "Youth and the Larger Citizenship."

The Adult Minor. By WILLIAM R. GEORGE. New York: D. Appleton-Century Company, Inc., 1937, 192 pp., $2.

The last work of the author of *Progress and Poverty* and the founder of the George Junior Republic, who died in 1936. Developing his theory that it is a waste of energy, intelligence, and opportunity to keep young people out of active participation in civic affairs during the formative and critical years before they reach voting age, he here suggests some of the things that could be done to train them in political, economic, and social responsibility. Although his illustrations are drawn mainly from his experience with boys, many of the principles involved are equally applicable to girls.

Sue Barton, Senior Nurse. By HELEN DORE BOYLSTON. Boston: Little, Brown & Company, 1937, 220 pp., $2.

The history of the girl whose first steps in training as a nurse were described in *Sue Barton, Student Nurse* (noted in December 1936) is here carried through her graduation. By being made perhaps a bit more romantic than the average in real life, this tale of her experiences may catch the interest of a larger number of girls and at the same time give them an essentially correct idea of what you have to do if you go in for professional nursing.

Planning for College and How to Make the Most of It While There. By MAX MCCONN. New York: Frederick A. Stokes Company, 1937, 267 pp., $2.

With much common sense and on the basis of practical experience as dean of Lehigh University, the author begins this book with the question "Who Ought to Go to College?"; then for those who decide they ought to go, gives clear, well-arranged, practical information about choosing a college course and the college in which to take it, about what it will cost, how to prepare for it, how to live while at college, and how to make the most of what one gets there.

Of the Earth Earthy. By MARION NICHOLL RAWSON. New York: E. P. Dutton & Company, Inc., 1937, 414 pp., $5.

In telling "How Our Fathers Dwelt upon and Wooed the Earth" in America, Mrs. Rawson describes (and often illustrates by delightful sketches) many homely implements and practices that would interest home economics classes. Her book seems to give the "feel" of life and work before industrialization and mass production had separated us so far from the raw materials and the processes by means of which our needs are met.

Home Grown. By DELLA T. LUTES. Boston: Little, Brown and Company, 1937, 272 pp., $1.75.

In what might almost be called a sequel to last year's *Country Kitchen,* Mrs. Lutes here gives more delightful reminiscences of her childhood in a midwestern village—the good things they had to eat; how their houses were furnished and managed; the sturdy, independent, simple, and kindly folk who were their neighbors; and the ways in which they enjoyed themselves together.

How to Beat the High Cost of Living. By RAY GILES. New York: Simon and Schuster, 1937, 94 pp., $1.

Specific practical suggestions for saving money in connection with the purchase of food, clothing, shelter, home ownership, home furnishing, heating, automobile, or insurance, or in paying taxes. The author is an advertising man who has also written *Your Money and Your Life Insurance* and *Turn Your Imagination into Money.*

Financing the Consumer. Edited by JOHN H. COVER. Chicago: The University of Chicago Press, 1937, 114 pp., $1.

This report of the Conference on Consumer Financing which was held at the University of Chicago in May 1937 brings together the papers and some of the discussions of the conference. Their approach to family economics is from the standpoint of the agency that offers credit to individual consumers and as such is often illuminating and helpful to home economists concerned with family budgeting and finance.

Physicians and Medical Care. By ESTHER LUCILE BROWN. New York: Russell Sage Foundation, 1937, 202 pp., $0.75.

This monograph in the carefully prepared series dealing with "the present status of certain established or emerging professions in the United States" is of special interest now that so much is being said about the attitude of the medical profession toward different methods of providing medical care for all. It summarizes information regarding medical education, national medical associations, the number of and demand for physicians, their distribution and incomes, and finally discusses newer forms of medical service and adequate medical care for all. In conclusion, the editors emphasize how "by unremittingly purposeful effort it [American medicine] has equipped itself with hospitals, laboratories, schools, and well-trained physicians" and point out that its present problem is an economic one, in which both physicians and society are involved, "that of devising ways and means whereby adequate care can be provided for the entire population and physicians compensated fairly for the service rendered."

The Administration of Federal Grants to States. By V. O. KEY, JR. Published for the Committee on Public Administration of the Social Science Research Council. Chicago:

Public Administration Service, 850 East 58th Street, 1937, 388 pp., $3.75.

In preparing to write a description of how federal aid to states is actually worked, the author not only studied the statutes and records but talked with many federal, state, and local officials who deal with federal aid in practice, and from them learned of the devices evolved to "lubricate federal-state relationships." The result is likely to be of value to anyone who takes part in such relationships or who is interested in the general problem of the wisdom of federal aid or in special causes aided by it, among them agricultural extension and research, child and maternal health services, vocational education.

Papers on the Science of Administration. By LUTHER GULICK and L. URWICK. New York: Institute of Public Administration, 1937, 195 pp., $3.

This collection of fairly technical papers by recognized authorities in different phases of the science of organization is especially timely now that there is so much discussion of the functions of government and the reorganization in our federal and state governments.

Milk Control. Governmental Regulation of the Dairy Industry in the United States. Prepared by the AMERICAN MUNICIPAL ASSOCIATION. Chicago: Public Administration Service, 850 East 58th Street, 1937, 49 pp., $0.75.

The principal steps taken by federal, state, and local authorities to regulate this important industry for consumer protection are reviewed, and the developments necessary further to purify milk in every section of the country are examined and explained. Many persons will probably be surprised by such facts as that only 1 out of 5 communities with population from 1,000 to 10,000 regulate the conditions of production or distribution of milk at all, or that while bovine tuberculosis is practically eliminated, Bang's disease, one of the causes of undulant or Malta fever, needs still to be brought under control. A model milk-control ordinance, available since 1923, is now in use by about 700 communities, representing a population of some 18 millions, and costs on an average 8.3 cents per person per annum to administer. Ways of financing administration of a model milk ordinance are discussed, as well as the specific regulations that can be incorporated into any municipal ordinance. Communities too small to finance adequate administration, it is pointed out, can collaborate on their efforts.

Etiquette: "The Blue Book of Social Usage." By EMILY POST. New York: Funk & Wagnalls Company, 1937, 877 pp., $4.

Another revision of what is probably the most widely used, certainly the most commonly mentioned, etiquette book in the United States. There are new chapters or sections on motoring, restaurant manners, simple parties, college affairs, junior etiquette, smoking, air travel, social requirements in business, and other timely topics. Because the well-to-do are so largely the accepted arbiters of social usage, the book inevitably includes situations within the means of only a few; but the author does not ignore those of moderate income and defines the "best society" as made up of "people of cultivation, courtesy, taste, and kindness."

Financial Survey of Urban Housing. By DAVID L. WICKENS. Washington, D. C.: Superintendent of Documents, 1937, 1245 pp., $3.25.

These "statistics on financial aspects of urban housing" were collected in a survey which the U. S. Department of Commerce carried on as a C.W.A. project in the same cities in which the Real Property Inventory was made. Although the data as here presented are in too technical a form for use by any but the specialist or the statistician, it is obvious, even to the layman, that an enormous amount of practical information on many phases of the housing problem can be worked out from them—a task which it is to be hoped someone will soon undertake for the benefit of housing authorities, the friends of better housing, and the home economists who need such help to make their teaching conform to actualities.

American Planning and Civic Annual. Edited by HARLEAN JAMES. Washington, D. C.: American Planning and Civic Association, 1937, 404 pp., $3.

This "record of recent civic advance" includes papers from several conferences on state and national parks and also from the 1937 National Planning Conference. Among the latter are many of interest in connection with the better use of land and other resources and its promotion by well-considered planning, whether for large regions of the nation or for states, counties, towns, and cities.

Proceedings of the National Conference of Social Work at the Sixty-Fourth Annual Session Held in Indianapolis, Indiana, May 23–29, 1937. Chicago: The University of Chicago Press, 1937, 699 pp., $3.

So many of the sixty or more papers and reports here assembled touch on home economics interests, especially those of home economics in social service and public health, that only by copying out many of the titles and authors from the table of contents could even a cursory idea be given of its varied contributions to that field.

America's Cook Book. Compiled by the HOME INSTITUTE OF THE NEW YORK HERALD TRIBUNE. New York: Charles Scribner's Sons, 1937, 1005 pp., $2.50.

The three thousand or more tested recipes included in this thick volume may well justify its claim to being "the most comprehensive bluebook on cookery available." They were chosen and verified by Eloise Davison and her associates on the home economics staff of the Home Institute of the New York Herald Tribune, who are also responsible for the classifications, introductory discussions, menus, tables, and other general information. Mrs. Walter Hine has contributed material on flower arrangement; Mrs. Emily Post has written the preface and suggestions for formal table setting; and the introduction is by Mrs. William Brown Meloney.

To the Queen's Taste. A Cook Book for Moderns. By HELEN TRAIN HILLES. New York: Random House, 1937, 306 pp., $2.50.

"A new kind of cook book, written in gay and witty style, intended for people who appreciate the delights of good food appetizingly served but who perhaps are not so familiar with the economic short cuts possible." The author, the daughter of a well-known story writer and lawyer and herself the author of juvenile books, is the mother of two children and makes cooking her hobby.

Cook Away. The Outing Cook Book. By ELIZABETH CASE and MARTHA WYMAN. New York: Longmans, Green and Co., 1937, 119 pp., $1.

These "selected menus and recipes for cabins, cabin cruisers, house-boats, kitchenettes, and trailers" recognize the need for special techniques, planning, and selection for "cabin cooking and housekeeping"; but the equipment and materials called for are easily obtained and adaptable to meal preparation in small quarters anywhere.

ABSTRACTS

FOOD ECONOMICS AND DIETARY REQUIREMENTS

Contributed by the staff of the Food Economics Section, Bureau of Home Economics, United States Department of Agriculture

Caloric and protein requirements and basal metabolism of children from 4 to 14 years old, J. W. MARONEY and J. A. JOHNSTON. *Am. J. Diseases Children* **54,** No. 1 (July 1937) pp. 29–46.

Food intakes of 13 girls and 14 boys were measured over periods averaging 9.4 months in length. Nitrogen balances were made on 111 days for each child, as well as periodic basal metabolism determinations. Gains in weight and height obtained with calorie intakes representing increments over the basal calories averaged 67 per cent for girls and 74 per cent for boys. With calories adequate for growth, 15 per cent of the total from protein seemed optimal. Where protein furnished more than 20 per cent of the total calories, loss of appetite, pallor, and in some cases abdominal discomfort resulted. With less than 15 per cent of the total calories from protein, negative balances were frequently found. The study showed marked individual variation in apparent caloric requirement. During growth, calories per inch of height were more nearly constant than calories per kilogram of body weight. Because of the interrelation between calorie and protein requirements, it seems most satisfactory to state protein requirement in terms of percentage of calories.

Nutritional economics of dietary calcium, F. L. GUNDERSON. *Am. J. Pub. Health* **27,** No. 6 (June 1937) pp. 570–574.

Most dietary studies show that calcium is very likely to be deficient, particularly in diets of low-income groups. An intake of 1 gram per day for children and 0.68 gram for adults is usually recommended. The cost of 1 gram of calcium in the form of different foods is shown to have varied from $0.064 in evaporated milk and cottage cheese to $2.50 in canned tomatoes. The cost of 1 gram in drugs varied from 0.8 cents in calcium lactate to 17.9 cents in calcium gluconate. Calcium salts in ton lots could be obtained at such low costs that foods like macaroni, bread, and cereals could be fortified at the factory with no added cost to the consumer. Further study is needed on the availability of calcium in foods and in salts. There is a need for a more economical, automatic, and accessible source of this nutrient.

Consumption of milk in Vancouver in relation to income, C. I. JOHNSTON. *Econ. Annalist* **7,** No. 4 (Aug. 1937) pp. 58–59.

The average per capita milk consumption among 1,083 families in Vancouver, B. C., in 1936 was 0.65 pint per day, according to a survey conducted by the British Columbia Department of Agriculture in co-operation with the Economics Branch. Consumption increased with income from an average of 0.58 pint per day in families with annual incomes of less than $300 per capita to 0.78 pint in families with incomes of $900 or more. Eighty-three per cent of the total persons and 95 per cent of the children under 16 were in families with incomes lower than $600 per person per year. From 82 to 100 per cent of the children under 16 drank milk as a beverage, the proportion increasing with income. The average daily consumption per child ranged from 0.76 pint in relief families to 1.69 pints in families with incomes of $900 and over. In families with incomes under $600 per person per year, less than 15 per cent of the adults drank milk as a beverage. For this group the average per capita consumption was less than 0.15 pint per day.

The effect of skimmed milk, soya bean, and other foods in supplementing typical Indian diets, W. R. AYKROYD, B. G. KRISHMAN, and K. B. MADHAVA. *Indian J. Med. Research* **24,** No. 4 (April 1937) pp. 1093–1106.

Previous studies showed that the average Indian diet is deficient in proteins of high biological value, in calcium, and in other food factors. In the study here reported, the addi-

tion of skim milk powder to the diet of children in residential hostels in South India produced accelerated growth and marked improvement in general condition. In one school, boys receiving a supplement of 1 ounce of skim milk daily for three months gained an average of 4.77 pounds and 0.61 inches, as compared with 2.13 pounds and 0.35 inches for the group receiving no added milk. The same experiment in two other hostels produced similar results. However, no improvement followed the addition of 1.5 ounces of soya bean, supplying even more protein than the skim milk. Parallel experiments were conducted on rats. Growth on typical South Indian diets was enhanced by the addition of small quantities of whole or skim milk and eggs. The addition of green leafy vegetables, palm oil, gingelly oil, black gram, or ground nuts had little effect. The most serious defect in the South Indian diet is a deficiency of one or more factors contained in skim milk. Although the cost of skim milk is about one third that of whole milk, it is too expensive to be included in the diet of institutions in India.

Wheat as a foodstuff, E. M. HUTTON. *J. Dept. Agr. South Australia* **40,** No. 12 (July 1937) pp. 944–945.

The development of wheat has closely followed the progress of civilization, until now about one third of the total human population are wheat eaters. As the standard of living rises in non-wheat-eating countries (Japan, China, India), bread will gradually become the principal food. The nutritive value of whole wheat is similar to that of other whole grains. Its superiority lies in the ability of gluten to become elastic on adding water. Wheat flour is the only kind from which a light porous loaf can be baked. White bread is chiefly a fuel food. In the ordinary mixed diet, eggs, meat, milk, fruits, and vegetables more than compensate for the minerals and vitamins lost in the process of milling white flour.

A study of the food intake of the inmates of Welfareville, I. CONCEPCION. *J. Philippine Islands Med. Assocn.* **17,** No. 4 (April 1937) pp. 197–210.

In this institution were 196 girls (average age, 12.8 years) and 779 boys (average age, 15.1 years). During a 10-day period a detailed record was kept of the quantities of all foods purchased and whatever was discarded as waste. The diet provided an average daily allowance of 2,890 calories, 71 grams protein, 0.318 grams calcium, 0.89 grams phosphorus, and 0.0105 grams iron per adult male unit calculated according to Hawley's method, using one scale for energy and one for protein and minerals. The percentage distribution of calories among groups of foods was as follows: grain products 59; milk and dairy products 4; vegetables and fruits 6; fats and oils 8; meat, fish, and eggs 13; sugars 9; and miscellaneous foods 1. Protein furnished 10 per cent of the total calories. The average cost of the diet was 22 centavos per capita per day, of which 32 per cent was spent for grain products; 7 per cent for milk and dairy products; 7 per cent for vegetables and fruits; 3 per cent for fats; 37 per cent for meat, fish, and eggs; 12 per cent for sugars; and 2 per cent for miscellaneous foods. Judging from this study, the diets were low in calcium and also low in phosphorus and possibly iron.

A nutrition survey, W. B. STOTT. *Med. Officer* **57,** No. 26 (June 1937) pp. 259–261.

Data on family expenditures and food consumption of working-class families in the south of England were obtained by questionnaires distributed through the schools; 204 schedules were filled in and returned. The 309 children from the families reporting were examined and classified into 6 categories according to their nutritional state. About a third were considered subnormal. No relation was found between the level of expenditure for food and the occurrence of malnutrition. The average weekly income per family was £2 7s. 5d., over half of which was spent for food. The average weekly per capita food expense was 4s. 9d. The use of meat was reported by 99 per cent of the families, eggs by 74 per cent, vegetables by 74 per cent, fresh fruit by 54 per cent, and milk by 93 per cent. The average per capita consumption of milk was about a third of a pint per day.

Some previews of an analysis of American diets, H. K. STIEBELING. *Med. Woman's J.* **44,** No. 11 (Nov. 1937) pp. 313–317.

A preliminary report of the country-wide dietary analysis conducted by the Bureau of Home Economics, U. S. Department of Agriculture, shows that more than half of the country's self-supporting families spent less than $3 per person per week for food in 1936. With increasing income the proportion spent for food declines, but the actual expenditures per person tend to rise. Food expenditures were lowest in the Southeast where the middle half of white families spent between $1.65 and $2.80 per person weekly and negro families between $0.85 and $1.85. Lower average incomes and somewhat larger families account for this. Then, too, prices are lower in the South. The amount farm families spend for food varies inversely with the quantities of home-produced food. Milk, butter, eggs, meat, fruits, and succulent vegetables were used in much greater quantity in the higher- than in the lower-cost diets; less difference was found with respect to quantities of potatoes, grain products, and the cheaper fats. Characteristic regional and racial differences in dietary habits were observed. Nutritionally good diets were seldom found when the weekly food expenditure was less than $1.50 to $2 per person, but the diets costing $4 or more were almost always good. Between these expenditure levels, quality of the diets depended on the foods selected. Because they lack the advantages of large markets and of facilities for home production, village families tend to have poorer diets than do city or farm families. The need for greater knowledge in food selection is emphasized, and a plan for a moderate-cost diet is outlined.

Racial food habits in relation to health, M. S. ROSE. *Sci. Mthly.* **44,** No. 3 (March 1937) pp. 257–267.

Abundant evidence exists of the relation between food habits and physical attainment. Furthermore, the modern science of nutrition has made possible the prevention and cure of many diseases arising from dietary deficiencies. Examples are pellagra in the southern part of the United States and in many parts of Europe and beriberi, particularly in the Orient. All races have similar nutritional needs, but the extent to which they are met depends on resources and often on social custom and religious belief. Changes in racial habits due to so-called civilization may be disastrous. For example, the raw-meat diet of the Eskimos has been so diluted by the introduction of cereals and sugar that beriberi, scurvy, rickets, night blindness, and dental diseases have resulted; and the use of polished rice in place of the whole grain has been associated with an increase in the incidence of beriberi. Diets not actually lacking in any essential may still be improved. The present knowledge of nutrition permits a new concept of the relation between diet and health.

The consumption of milkstuffs and meatstuffs in the Rhondda Valley, E. D. HARRY. *Welsh J. Agr.* **13** (Jan. 1937) pp. 69–81.

Figures on the consumption of milk were obtained from 602 households varying in size from 1 to 14 persons, with a majority between 2 and 7 persons. These were divided into two groups according to the composition of the household: families of adults (persons over 14) only and families of adults with one or more children. In both groups the per capita consumption of fresh milk decreased with increasing family size. The average quantity of milk purchased by families of adults only was 1.87 pints a week, as compared to 1.09 pints for families with children. This difference appeared to be due to restricted purchasing power as expressed by income per person. The consumption of meatstuffs (meat, fish, eggs) among 259 families varied in relation to type and size of household. In all families, the average consumption declined as households increased in size. The average weekly consumption for families of adults only was 2.68 pounds per capita and for families with children, 2.51 pounds per adult equivalent. The study shows that income had a more direct influence on purchases than did size of family. Type and size of household influenced consumption mainly as they affected per capita income. Expenditure for milk and meats showed a high positive correlation with income.

E. F. P.

NUTRITION

Contributed by the Nutrition Studies Section of the Bureau of Home Economics and the Office of Experiment Stations, U. S. Department of Agriculture

Vitamin C nutrition in pulmonary tuberculosis, G. J. MARTIN and F. H. HEISE. *Am. J. Digestive Diseases & Nutrition* **4**, No. 6 (Aug. 1937) pp. 368–374.

Examinations were made of 150 tuberculous patients and 15 nontuberculous persons to investigate the possible relationship between vitamin C nutrition and tuberculosis. All patients and controls were on the regular sanatorium diet, and the state of vitamin C nutrition was determined by the ascorbic acid content of 24-hour urine samples. The test-dose method was used in many cases. All cases of pulmonary tuberculosis were found to have lower excretions of vitamin C than the nontuberculous control group, and the degree of hypovitaminosis seemed to parallel roughly the extent and activity of tuberculosis. Explanations offered for this vitamin C deficiency were abnormal chemistry of the intestinal tract and increased requirements by the tissues of vitamin C.

The basal metabolism of normal boys and girls from two to twelve years old, inclusive, R. C. LEWIS, G. M. KINSMAN, and A. ILIFF. *Am. J. Diseases Children* **53**, No. 1 (Jan. 1937) pp. 348–428.

A comprehensive progress report is presented concerning the basal metabolism study of normal healthy boys and girls which is being conducted by the Child Research Council of the University of Colorado School of Medicine over a period of years. A thorough review of the literature is given showing the need for further research in this field. The work here first reported gives the results of tests made since 1932 on children between the ages of 2 and 12 years. Data include 366 basal metabolism tests on 52 boys and 271 on 41 girls.

An investigation into the health of 1,530 preschool children, P. HENDERSON. *Arch. Diseases Children* **12**, No. 69 (June 1937) pp. 157–168.

The fact that approximately 16 per cent of the children entering the elementary schools of England possess physical defects which require treatment led to an investigation of the age at which these defects first appear and the factors giving rise to them. Examinations were made of 1,530 preschool children at five infant welfare centers during the period from January to July, 1936. Twenty-nine defects were found, of which 15 are discussed in detail. If it is assumed that (1) unusual palpability of neck glands is not necessarily a sign of disease, and (2) that simple enlargement of the tonsils has no adverse effect on the child's health, then only a minority of preschool children are found to have physical defects other than carious teeth. Bronchitis was found to be the most serious disease encountered in this investigation. In 50 per cent of the cases studied, its onset followed an infective condition of the naso-pharynx or respiratory tract of some other member of the family. Malnutrition was a serious problem which owed its existence to the poor economic status of some families. Until ways are devised whereby the preschool child is adequately fed, he cannot attain the desired standard of health.

The effect of boiling on the nutritive value of milk, S. GRAHAM and N. MORRIS. *Arch. Diseases Children* **12**, No. 69 (June 1937) pp. 169–172.

Although the sterilization of milk is usually regarded as an important measure in the prevention of certain diseases, several arguments have been advanced against it. The chief objection is that sterilization alters the nutritive value of milk. To throw light on this theory, a comparison was made of the nutritive value of raw and boiled milk by determining the calcium, phosphorus, nitrogen, and fat retentions of two children fed a diet in which about 50 per cent of the caloric value and 70 per cent of the total protein were supplied in the form of milk. Milk from the same source was used during the course of the experiment. Observations during alternate periods of raw and boiled milk feeding were made for each child. It is evident from the results that over

short periods the absorption and utilization of milk are not impaired by boiling, provided the diet is adequate in all essentials.

Vitamin B_1 in the animal organism. I. The maximum storage of vitamin B_1 in the tissues of the rat, P. C. LEONG. *Biochem. J.* **31**, No. 3 (March 1937) pp. 367–372.

The bradycardia method for the assay of vitamin B_1 was used to determine the maximum storage of vitamin B_1 in the rat, the distribution of the vitamin in various tissues, and the influence of dietary intake on storage. Results are expressed in international units of vitamin B_1. The highest concentrations of the vitamin were found in the liver and the heart. In "saturated" rats the combined deposits in liver and muscle represented from 80 to 90 per cent of the total storage in the parts examined. Although the concentration of vitamin B_1 in the liver was four times that in the muscle, the latter contained between 40 and 60 per cent of the total reserves because of the large proportion of body weight due to muscle. The remaining vitamin B_1 reserves were distributed through the heart, kidneys, brain, spleen, lungs, intestines, and body fat. The storage rose with increasing levels of vitamin B_1 intake until a maximum was attained when the intake was about 30 international units per day. Intakes above this caused no appreciable increase in vitamin B_1 reserves.

A study of the destruction of vitamin B_1 in blood, P. C. LEONG. *Biochem. J.* **31**, No. 8 (Aug. 1937) pp. 1391–1395.

The low excretion of vitamin B_1 in rats as compared with the ingestion cannot be entirely accounted for by storage in the tissues. A desire to investigate this phenomenon led to a study of the stability or destruction of vitamin B_1 in blood at body temperature. An aqueous solution of the vitamin kept at 0°C. was assayed by the bradycardia method and found to be stable for at least 3 months. Tests also carried out on the stability of the vitamin when kept at a temperature of 37°C. for 24 hours showed no deterioration. The vitamin was found to be stable in blood at 19°C. for 24 hours. The effect of heat on vitamin B_1 in blood was determined by incubating at 37°C. for 24 hours 1 ml. of an aqueous solution of the vitamin with 1 ml. of oxalated blood drawn from normal rats and assaying the mixture for vitamin B_1 by the bradycardia method. This treatment caused a certain amount of destruction of the vitamin. Further tests were conducted to determine whether this destruction was due to enzyme-like substances in the blood. A solution of the vitamin incubated with boiled blood showed the same amount of destruction when assayed, proving that enzymes did not play any part in the destruction of vitamin B_1.

Studies on the absorption of carotene and vitamin A in the human subject, H. E. C. WILSON, S. M. D. GUPTA, and B. AHMAD. *Indian J. Med. Research* **24**, No. 3 (Jan. 1937) pp. 807–811.

This paper reports an investigation undertaken to discover some of the factors concerned in the absorption of carotene in the human body. An experiment was conducted to determine how far carotene derived from carrots and spinach was absorbed when a typical Indian diet with and without fat was used. The carrots were fed raw and the spinach cooked, the cooking water being also consumed. A further test was made of the absorption of a commercial concentrate of vitamin A, with one of the authors as subject. A standard carotene-free diet was eaten and the amounts of carotene ingested and excreted were estimated by the Lovibond tintometer. The results indicate that carotene is equally well absorbed when supplied by raw carrots and by cooked spinach. On a fat diet the percentage absorption of carotene was about 90 in contrast to about 50 on the similar diet without fat. The commercial concentrate of vitamin A was, apart from bacterial decomposition, completely absorbed.

Signs of vitamin A deficiency in the eye correlated with urinary lithiasis, W. J. EZICKSON and J. B. FELDMAN. *J. Am. Med. Assocn.* **109**, No. 21 (Nov. 20, 1937) pp. 1706–1710.

The purpose of this investigation was to determine whether there is any relationship between vitamin A deficiency and upper urinary lithiasis in human beings. Dark

adaptation tests by means of a photometer were used to measure vitamin A deficiency. Seventy-five patients, 25 of whom had urolithiasis, were selected for study. Ninety-six per cent of the cases of renal urolithiasis were found to be associated with vitamin A deficiency as determined by dark adaptation tests, indicating that a relationship exists between the two. These patients were given a vitamin A concentrate varying from 13,000 to 52,000 units daily for a period of from six to nine months, and restudies were made later of the 15 who returned for observation. Fourteen of the 15 failed to show any improvement in dark adaptation, thus indicating that vitamin A deficiency in human beings with urolithiasis as measured by dark adaptation is influenced little if at all by vitamin therapy. The general health of the patients improved, none of the existing calculi increased in size, and no new ones were formed while the patients were receiving sufficient vitamin A. It is concluded that while vitamin A deficiency is associated with renal lithiasis, this condition is due to lack of assimilation or utilization of vitamin A rather than to dietary deficiency. This suggests that lack of vitamin A assimilation or utilization and urinary lithiasis may have a common metabolic basis.

Iron retention in infancy, G. STEARNS and D. STINGER. *J. Nutrition* **13,** No. 2 (Feb. 10, 1937) pp. 127–141.

The purpose of this study was to determine the quantities of iron retained by infants from 7 to 54 weeks of age when various types of diets were employed. Fourteen healthy infants served as subjects. One received human milk, and the others were given a basal diet of cow's milk, carbohydrate, and orange juice. Supplements of egg yolk, spinach, a special cereal, and an iron salt were fed as sources of iron, and their influence upon iron retention was noted. The effect of potassium, calcium, and phosphorus upon iron retention was also studied. The baby receiving human milk was never in negative balance, although the retention of iron was small. On cow's milk alone, the infants lost an average of 0.05 mg. of iron daily. Egg yolk and spinach sufficient to supply an average of 0.32 mg. of iron per kilogram daily failed to increase the iron retention. The calcium retention of the infants was lowered by the intake of spinach. No consistent relationship was observed between the iron retention and the intake of potassium, calcium, or phosphorus. When egg yolk, the special iron-rich cereal, or ferric ammonium citrate were fed in sufficient amounts, the iron retentions of the infants were definitely increased, an intake of approximately 0.5 mg. per kilogram body weight being the amount necessary to ensure a retention of iron, and 1 to 1.5 mg. per kilogram permitting ample retention. The results indicate that iron from food (special cereal and egg) and from a ferric salt (ferric ammonium citrate) was equally effective when fed in the proper amounts.

Vitamin C and infection. Excretion of vitamin C in osteomyelitis, M. A. ABBASY, L. J. HARRIS, and N. G. HILL. *Lancet* **2,** No. 4 (July 24, 1937) pp. 177–180.

The authors' previous study on the excretion of vitamin C in patients suffering from juvenile rheumatism and surgical tuberculosis demonstrated that persons infected with these diseases had a lower urinary excretion of vitamin C than control subjects receiving the same dietary intake of the vitamin [*Lancet* **2,** 1936, p. 1413]. The present report covers a similar survey of a group of hospital patients suffering from osteomyelitis. The subjects examined included 17 "active" cases, 17 "half-healed" cases, 16 "healed" cases, and 10 controls. In range of vitamin C excretions and response to test doses, the active cases were found to be below normal and the half-healed cases intermediate. Healed cases gave a normal response. The results indicate that osteomyelitis causes a marked decrease in the vitamin C reserves or "degree of saturation" due apparently to an increased usage of the vitamin during the infective process.

Vitamin C and infection. Excretion of vitamin C in pulmonary tuberculosis and in rheumatoid arthritis, M. A. ABBASY, L. J. HARRIS, and P. ELLMAN. *Lancet* **2,** No. 4 (July 24, 1937) pp. 181–183.

Another contribution to the series mentioned

in the preceding abstract. This paper gives the results of tests on patients suffering from pulmonary tuberculosis and rheumatoid arthritis. The former group included 19 "active" cases, 13 cases of "moderate" severity, and 6 "quiescent" cases, together with a group of 8 controls. Dietary conditions were first standardized by placing all subjects for four weeks before the test on a diet sufficient to bring normal subjects to a level of vitamin C excretion somewhat above the minimum average level of 13 mg. per day. The daily excretions of vitamin C by the quiescent cases were well above the minimum, the active cases, with one exception, were all markedly below, and the moderate cases fell into an intermediate position; the controls were all above the minimum standard. Further evidence of the low saturation of vitamin C of the patients with pulmonary tuberculosis was shown by the low responses to test doses of the vitamin. In the study of rheumatoid arthritis, 25 cases of the disease in varying degrees of severity were examined, together with the 8 controls who served in the experiment with pulmonary tuberculosis. All the arthritic cases fell below the minimum standard of vitamin C excretion, while the controls were above. The results of the surveys on pulmonary tuberculosis indicate that extra vitamin C should be given to patients with tuberculosis to keep the body reserves up to normal. Confirmation of the importance of an infective factor in rheumatoid arthritis is indicated by the findings. The suggestion is made that the determination of vitamin C excretion under controlled conditions may be used to confirm the presence and severity of an infective state.

Vitamin-C deficiency in Addison's disease, J. F. WILKINSON and C. A. ASHFORD. *Lancet* **2,** No. 17 (Oct. 24, 1936) pp. 967–970.

Tests by the urine technique of Harris and Ray showed a considerable degree of vitamin C deficiency in 3 patients suffering from Addison's disease. Case histories are given. Responses to repeated large test doses of ascorbic acid were of varying degrees of slowness, and the degree of vitamin C subnutrition closely paralleled the severity of the disease. When the administration of vitamin C was discontinued, the excretion fell rapidly to the values characteristic of the control period. The possible significance of these results and the relationship of vitamin C to pathological pigmentation are discussed at length.

Treatment of psoriasis with massive doses of crystalline vitamin D and irradiated ergosterol, E. T. CEDER and L. ZON. *Pub. Health Repts.* **52,** No. 45 (Nov. 5, 1937) pp. 1580–1584.

A preliminary report is given concerning the treatment of 15 cases of chronic, widespread psoriasis with daily doses of irradiated ergosterol containing from 300,000 to 400,000 units of vitamin D. Complete involution was observed in 11 subjects within 12 weeks, while 2 cases showed only partial improvement and 2 showed no benefit. Massive doses of the preparation appear to be safe when administered to adults. The results thus far indicate that this treatment is a simple and effective method of controlling the disease.

Cobalt as an essential element in animal nutrition, W. M. NEAL and C. F. AHMANN. *Science* **86,** No. 2227 (Sept. 3, 1937) pp. 225–226.

This report summarizes the results of research on cobalt as an essential constituent of the diet. Lack of this mineral in certain localities causes a disease in sheep and cattle which is cured by the administration of small amounts of cobalt. The characteristic symptoms are a long, rough hair coat, scaliness of the skin, listlessness, retarded development of sexual characteristics, gauntness due to lack of appetite, and muscular atrophy. Examples are given of the effect of cobalt on the growth rates of several Jersey calves.

M. K. M.

INSTITUTION ADMINISTRATION

New low cost desserts with menu appeal, B. E. NETTLETON. *Am. Restaurant* **20,** No. 12 (Dec. 1937) pp. 35, 84–86.

If the inexpensive dessert does not receive care in making and serving, it will look cheap and be without appetite appeal. The addition of a colorful and flavorful sauce or a distinctive ingredient will increase sales, especially where the desserts are displayed as on the cafeteria counter. Some service restaurants utilize this display value by arranging the desserts on a tray or tea wagon from which the customer makes his selection; this affords an opportunity to feature low-cost puddings. Recipes for newer desserts are given.

Personnel reduction of labor turnover, L. R. ROBBINS. *Hospitals* **11,** No. 11 (Nov. 1937) p. 51.

Employees must comport themselves with dignity, courtesy, and consideration for others and must manifest a spirit of friendly co-operation and teamwork. Labor turnover is reduced by careful selection and training of employees, elimination of trouble makers, careful consideration of complaints and problems, payment of fair wages, promotion within the ranks, provision for a sense of security in their jobs, and practice of the golden rule.

Comparison of various types of fuel for hospital kitchens. *Hospitals* **11,** No. 11 (Nov. 1937) pp. 96–102.

This symposium on gas equipment, electrical equipment, and the Swedish type stove gives the advantages of each. It points out that the cost of fuel should be one of the primary factors in determining whether a gas, electric, or coal range should be installed.

The place of the dietitian in the out-patient department, G. HILLS. *Hospitals* **11,** No. 11 (Nov. 1936) pp. 107–109.

The instruction given by the dietitian is based on the doctor's recommendations and her study of the medical and social histories of the patient. His economic status and living conditions are factors in the diets which she arranges for him. Simple explanations and illustrations aid the patient to an "intelligent understanding." The clinic dietitian's work deals not alone with special diets, which as far as possible she builds around normal food habits, but with normal nutrition as well. Her teaching likewise extends to dietitians, medical students, nurses, and students of social work.

How to cut glassware costs. *Hotel Mgt.* **32,** No. 5 (Nov. 1937) pp. 576–578. [Reprinted in *Restaurant Mgt.* **41,** No. 6 (Dec. 1937) pp. 526–528.]

A national study in hotels and restaurants of all classes shows that the percentage of hotel sales paid out yearly for glassware is 0.9 per cent for hotels and 0.5 per cent for restaurants and lunchrooms. The majority of replies indicated replacement of from 75 to 100 per cent. The sizes of glassware used for beverages are tabulated. In restaurants those most frequently used are 8-ounce for water and milk, 12-ounce for malted milk and iced tea and coffee, and 6-ounce for tomato juice and orange juice.

Annual reports 1936–1937 and proceedings, Richmond meeting. *J. Am. Dietetic Assocn.* **13,** No. 4 (Nov. 1937) pp. 325–373.

Included with the reports of officers and committee chairmen is a list of the training courses for student dietitians approved in October 1937.

Leveling the laundry load, W. G. CHRISTIE. *Modern Hosp.* **49,** No. 4 (Oct. 1937) p. 90.

Reduction of personnel and improved service have resulted from a schedule of linen collection and distribution which brings a more constant load to the laundry. A standard for linen supplied per patient bed has been set at 7 sheets, 8 pillowcases, 3 spreads, 3 bath towels, 6 face towels. Discards are replaced each month, and an inventory is taken yearly to check the perpetual inventory. The laundry in the institution described handles a weekly average of 10,280 pounds of flat work and 580 pounds of finished work at a cost of $1.25 per hundred pounds, or 19 cents per patient day.

Housekeeping humanized, D. L. DUNGAN. *Modern Hosp.* **49,** No. 5 (Nov. 1937) pp. 90–92.

Pointers in the selection and training of employees include the right of every employee to a living wage, a clean bed, good food, and sanitary working conditions. Essential in the executive are calmness and consistency, receptiveness, tolerance, patience and tact, dignity and courtesy, friendliness and interest.

Providence provides well, H. D. WOOD. *Nation's Schools* **20,** No. 4 (Oct. 1937) pp. 64, 66, 68.

School feeding, started in Providence in 1921, now includes 30 units. The food is prepared in a central kitchen for the smaller schools. The responsibility of organizing and directing the service on a self-supporting, nonprofit basis has always been assumed by the school department. School health and the improvement of eating habits through selection of food is stressed in the home economics and hygiene classes. The development of a social attitude is recognized as an important contribution of the cafeteria.

Food exhibits in the cafeteria, F. STERN, M. PFAFFMANN, and M. FOSTER. *Nation's Schools* **20,** No. 5 (Nov. 1937) pp. 57–60, 62.

Exhibits are recommended for furthering the educational program of the school cafeteria; their effectiveness is increased by the co-operation of several departments in the school. Careful consideration must be given to location, color scheme, and symmetry of form and grouping, to attractive and unique materials, to accurate and clear statement. Included are suggestions for and descriptions of exhibits which have proved their worth in other situations and which are valuable to cafeteria managers.

Formula for school lunch bread, M. C. KELLY. *Nation's Schools* **20,** No. 6 (Dec. 1937) p. 56.

A formula, devised by the U. S. Bureau of Home Economics, provides a definite gauge of value for awarding bread contracts for the school cafeterias of Hartford, Connecticut, whose bids now call for 12 per cent milk-bread. The formula is: flour 100 lb., water 70 to 75 lb., sugar 4 lb., salt 2 lb., shortening 2 lb., powdered skim milk 12 lb., yeast food 4 oz., malt 8 oz., yeast 2 lb.

Milk for variety, M. G. FLANLEY. *Nation's Schools* **20,** No. 6 (Dec. 1937) pp. 59–62.

If the child is to consume the amount of milk advisable, it should be sold in the school cafeteria at a price he can afford. This may be at cost or slightly below. If good, fresh pasteurized milk costs too much, less expensive powdered whole milk or evaporated milk may be substituted. Since the flavor of these varies somewhat from that of fresh milk, suitable flavors may be added. Recipes for stock sirups and other variations for the use of milk in the lunchroom are given.

Fit employees to their jobs, G. W. WADSWORTH, JR. *Personnel J.* **16,** No. 5 (Nov. 1937) pp. 165–170.

Tests for use in selecting employees have received little attention from institution managers. The author suggests that the first point in dealing with problem employees is to identify their characteristics by means of separate tests for mental ability, aptitudes, and temperamental peculiarities. The use of such tests at the time of selection and annually thereafter has been found to reduce the proportion of problem employees by about five sixths. Case studies of the misfits have definitely assisted in bettering their adjustment.

Personnel work and public relations, J. C. BURG. *Personnel J.* **16,** No. 5 (Nov. 1937) pp. 179–184.

The guest's contacts with the personnel of a hotel largely determines his attitude towards it. The Hotels Statler Company recognizes this and has definite standards for personality, appearance, intelligence, and skill which it uses in the selection of employees. The list of characteristics of a good personality serves as a guide for the interviewer. The company also conducts an employees' training course which has as its objective the development of technical skill and of morale and which includes such subjects as company policies, the duties and responsibilities of employees, and how to get along with people. The policy is to treat

employees so that they will not pass on to the guest a personal dissatisfaction with either the company policies or their own treatment.

The child-centered cafeteria, C. H. KUMPF and C. LAF. KUMPF. *Prac. Home Econ.* **15,** No. 10 (Oct. 1937) pp. 366–367+.

This is a description of the development of an elementary school cafeteria from a profit-making concession to its present vital educational function. Today it furnishes a 10-cent and 15-cent unit lunch for which the money is collected by the teacher and the tickets issued. Therefore, the dietitian knows shortly after school opens how many of each type lunch to prepare. This cuts down leftovers and eliminates the handling of money in the lunchroom save for the few à la carte items offered.

The organization and management of the Cleveland Heights public school cafeteria system, M. FARNUM. *Prac. Home Econ.* **15,** No. 10 (Oct. 1937) pp. 369–370.

A second article on the subject, dealing specifically with menus, recipes, records, and financial operation. Daily work sheets are given, on which the employees record the raw materials used and number of servings prepared, sold, and left over. A daily report is made of the weather, the number of pay customers and of indigent and student workers served, the cost of the latter's food, and the cash received. A complete operating statement is compiled monthly. A record card for large equipment shows the history of purchase, repair, and replacement. Physical inventory is taken twice a year.

A cooperative house for college girls, L. WILLIAMS. *Prac. Home Econ.* **15,** No. 11 (Nov. 1937) pp. 411–412, 421.

A vacated fraternity house at the University of Idaho served to meet the financial problems of 25 girls. Each paid $36 a semester for room rent and $8 a month for food and supplies. A girl who served as house manager worked with the director, a member of the home economics faculty, in planning meals and doing the buying while a student chairman supervised the other girls and their work schedules. Each of the other girls prepared three meals a week, waited on table one entire day, washed dishes three times a week, did one cleaning job a week, and had one extra week-end duty.

Interest grows in school lunch feeding. *Prac. Home Econ.* **15,** No. 12 (Dec. 1937) pp. 450–453+.

An article on the discussions of school lunch problems at the third annual Conference of Food Directors in Boston, at the first meeting of the National School Cafeteria Association in Chicago, and at the annual meetings of the American Dietetic Association in Richmond, the National Association of Public School Business Officials in Baltimore, and the Northeastern Ohio State Teachers Association in Cleveland. [See J. HOME ECON. **29,** 1937, p. 696; **30,** 1938, p. 32.]

Secrets of restaurant success. *Restaurant Mgt.* **41,** No. 5 (Nov. 1937).

The entire issue is devoted to a survey of the S & W chain of restaurants. Of special interest are the sections on food-cost control, storeroom control, the accompanying record forms, and the list of weights and measures of standard portions.

Seasonal food dishes for winter. *Restaurant Mgt.* **41,** No. 6 (Dec. 1937) pp. 545–548.

A compilation of menu suggestions from the West, South, and East, valuable as reference material.

G. M. A. and M. de G. B.

SOCIAL WELFARE AND PUBLIC HEALTH

Contributed by the home economics in social work department, New York City Home Economics Association

The case worker's contribution to public housing, J. COMAN. *Family* **18,** No. 6 (Oct. 1937) pp. 209–212.

Housing is essentially a family problem, and for the case worker it has professional aspects. The case worker possesses information which is needed in planning housing projects, and she can and should play an important part in planning housing programs in her community. She knows what the incomes of low and marginal families actually are, what rents they pay, the kind of houses they live in, the extent to which decent housing is or is not available. A housing agency must have such information to determine the need for public assistance in providing decent, safe, and sanitary housing. When new houses are built, it is necessary to determine which of all the low-income families who apply are eligible. It is then the job of budget experts, nutritionists, and case workers to agree on a quantitative statement of minimum adequate living requirements and to work out the cost of these in their own community. On the basis of such data, the rent-paying ability of families of varying income, size, occupations, or other differentials, should be determined.—L. K. A.

Tuberculosis control in the Mulberry district of New York City, J. DOWNES and C. R. PRICE. *Milbank Memorial Fund Quart.* **15,** No. 4 (Oct. 1937) pp. 319–347.

A critical appraisal of the results of the first two years of the intensive tuberculosis program being carried on in one of the congested areas of New York City by the Department of Health and the Mulberry Health Center. The authors discuss the comparative value of several methods of case finding that have been used, the cost of the service, and changes in emphasis in the future program.—E. G.

Ting Hsien and the public health movement in China, C. C. CH'EN. *Milbank Memorial Fund Quart.* **15,** No. 4 (Oct. 1937) pp. 380–390.

A condensation of the annual report of the Department of Public Health of Ting Hsien, Hopei, China. In 1927 the Chinese Association of the Mass Education Movement, which was organized originally to reduce illiteracy, decided to launch a rural public health program. An experimental unit has been working in Ting Hsien and is still considered the vital part of the Mass Education Movement, although during 1936 new provincial stations were established in Hunan and Szechuan. The report analyzes the difficulties encountered in expanding this type of program in rural China and summarizes the accomplishments in the collection of vital statistics, the control of communicable disease, public health nursing, and the training of personnel in Ting Hsien.—E. G.

Diabetes. *Commonhealth* **24,** No. 2 (April-May-June 1937) pp. 81–165.

This issue of the *Commonhealth* is entirely devoted to the subject of diabetes. Articles by well-known authorities dealing with the early history, the importance of early and accurate diagnosis and therapy, and the more usual complications are included. The hereditary nature of the disease is emphasized in several articles, and the use of insulin and protamine insulin is discussed at considerable length.—H. S.

Nutrition. Final Report of the League of Nations Mixed Committee on the Relation of Nutrition to Health, Agriculture and Economic Policy. Ser. L.o.N.P. 1937, II.A.10. New York: Columbia University Press, 1937, 327 pp.

This pamphlet [reviewed in the JOURNAL OF HOME ECONOMICS for December 1937] includes features of special interest to social work and public health. For example, consideration is given to the influence of education on food consumption habits and to the warning that income and education "are not alternatives, but joint determinants, though . . . income will prove the more important factor to those with most restricted means, while education is

important for all sections of the community." The final section of the conclusions contains this statement: "the malnutrition which exists in all countries is at once a challenge and an opportunity: a challenge to men's consciences and an opportunity to eradicate a social evil by methods which will increase economic prosperity."—H. S.

Facts, fads and frauds in nutrition, H. S. MITCHELL and G. M. COOK. Mass. Agr. Expt. Sta. Bull. No. 342 (April 1937) 31 pp.

The material presented in this bulletin is a "summarization of information, decisions, and criticisms by recognized authorities concerning nutritional and therapeutic claims in food advertising, as well as faulty concepts and notions regarding foods and nutrition." The authorities quoted are, for the most part, the U. S. Food and Drug Administration and the Committee on Foods and the Bureau of Investigation of the American Medical Association.—H. S.

Diets for elderly persons, S. SADOW. Superintendents' Committee, Section on Care of the Aged, Welfare Council of New York City (Oct. 1937) 19 pp.

This pamphlet reviews briefly in general terms the essentials of a normal diet for elderly persons. Additional sections include specific information on the amounts of food needed to provide good nutrition, points to consider in planning menus, and suggestive menus for one week, together with detailed suggestions for varying them.—H. S.

MISCELLANY

Meals for Children and All the Family. "How to Feed Young Children in the Home" by Mary E. Sweeny and Dorothy Curts Buck is a 68-page bulletin prepared and issued by the Merrill-Palmer School as a help to mothers who wish to provide suitable, nutritious, and attractive dishes for their children without having to prepare others for the grownups. The first part of the book gives sensible, practical advice about what a child's diet should contain and why, then follow recipes for the usual classes of dishes, from beverages and breads to soups and vegetables. The recipes have been worked out with the co-operation of mothers; all of them are good for the whole family; and none of them require elaborate preparation or expensive ingredients. As a suggestion for reducing costs, most of the recipes that call for milk are stated in two forms, one for use with bottled and one with irradiated evaporated milk. The pamphlet is distributed by the Irradiated Evaporated Milk Institute, 307 North Michigan Avenue, Chicago, Illinois.

"Low Cost Food for Health." Blanche Dimond and the nutritionists associated with her in the Community Health Association of Boston have collected, adapted, and tested recipes for nutritious, inexpensive, appetizing, easily prepared dishes for the use of the women with whom they work, or for any women who want to know how to feed their families well on the small sums they can afford. The bulletin is well organized and attractively printed and is sold for 25 cents a copy by the Association at 137 Newbury Street, Boston.

Illness and Physical Handicap. Home economists in social work and public health will be interested in a recent bulletin from the Family Welfare Association of America, 130 East 22d Street, New York City. It is called "What Social Workers Should Know About Illness and Physical Handicap," and in it physicians and social workers outline the symptoms and treatment of the more commonly seen diseases, the ethics of the relations between doctors, social workers, and patients, and treatment of the physically handicapped, chronic sick, and aged. The bulletin sells for 60 cents a copy, 10 copies for $5.

Home Play. "Home Play and Play Equipment for the Preschool Child" is the title of U. S. Department of Labor, Children's Bureau, Publication No. 238. The first part, "Play a Way of Learning," is reprinted from the Bureau's earlier bulletin "The Child from One to Six." The second part tells about toys, books and pictures, and outdoor play equipment, with directions for making the latter. Included also is a page of suggestions for further reading.

Office of Education. "Community Programs of Education in Family Living from the Viewpoint of Home Economics" and "Itinerant Teacher Training in Home Economics" are the titles of two recent mimeographed reports prepared by the Home Economics Education Service of the U. S. Office of Education and distributed on request as long as the supply lasts.

"The Prospect for Youth." In order "to focus attention upon the problems of youth, and to facilitate the intelligent consideration of these problems" the November issue of *The Annals of the American Academy of Political and Social Science* was devoted to this subject. Among the twenty-odd papers are: "What Is the American Youth Problem?" by Homer P. Rainey, "The Special Problems of Rural Youth" by Bruce L. Melvin, "The Vocational Guidance of Youth" by J. H. Bentley, "Youth and Leisure" by Eduard C. Lindeman, "Mental Hygiene for Youth" by Bruce B. Robinson, "Youth and Marriage" by Emily Hartshorne Mudd, "Organizations Serving Youth" by M. M. Chambers.

Ellen H. Richards Day on the Air. On December 3 the dialogue in the program of Carnation Milk's "Contented Hour" included a brief but charming, well-informed, and sympathetic reference to Mrs. Richards as the founder of home economics and the American Home Economics Association.

Safety Education Survey. To obtain information on which to base a satisfactory program of education to prevent accidents, the National Education Association has sent out questionnaires to be filled in by elementary and secondary school teachers and analyzed to show in what courses or activities and in what ways safety education is now being carried on.

"The Case Worker Interprets. . . ." These "chapters from experience in writing, broadcasting, movie making, organizing meetings, editing news" were collected for the benefit of social workers, but many of the methods suggested are also applicable to the interpretation of home economics. Copies of the bulletin may be obtained from the Social Work Publicity Council, 130 East 22d Street, New York City, for 25 cents a copy.

The Farm Family in 1938. For several years extension workers from all over the country have been coming in October to the U. S. Department of Agriculture for what is known as the Outlook Conference. At this, the department's specialists in all lines of farm and farm home economics present whatever information is available about coming conditions as an aid in shaping up policies and programs. The material from the 1937 conference which bears on farm family living has been assembled into a bulletin, "Farm Family Living Outlook for 1938," listed as U. S. Department of Agriculture Miscellaneous Publication 297.

Budgets and Minimum Wages. How much it costs a woman to live decently in a given locality is one of the first things to determine in setting up a minimum wage. To help states in formulating their own minimum-wage budgets, the Bureau of Home Economics in the U. S. Department of Agriculture and the Women's Bureau in the U. S. Department of Labor have co-operated in drawing up suggestions about "Factors to Be Considered in Preparing Minimum-Wage Budgets for Women." A short section on "The Practical Pricing of Budgets to Be Used in Establishing Minimum Wages," prepared by the Retail Price Division of the Bureau of Labor Statistics, U. S. Department of Labor, is also incorporated. For use until the material is printed, a limited mimeographed edition of the combined papers has been issued. While the supply lasts, copies may be obtained on request to the Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.

"What's in a Dress." This film released by the Women's Bureau of the U. S. Department of Labor portrays graphically the influence which ever-changing styles have on the conditions of work and living of women who make dresses in factories. Some of the scenes show the improvements which legislative action and co-operative efforts of employers and employees have produced in most of the plants that manufacture street and evening dresses, while others show the bad sweatshop and home-work conditions that still prevail in other parts of the industry, and the effects of seasonal unemployment, chiseling, and the speed-up system. The film is a silent one, available in both 16 mm. and 35 mm. width, and will be loaned to any individual or agency willing to pay transportation charges.

Home Laundering. "Methods and Equipment for Home Laundering," originally issued in 1926 by the textiles and clothing division of the U. S. Bureau of Home Economics, has now been revised by Ruth O'Brien and Helen S. Holbrook, especially in the section dealing with washing and ironing devices. It still bears its earlier series number, U. S. Department of Agriculture Farmers' Bulletin No. 1497, and may be obtained from the Department on request.

Vitamins Again. The Weston-Levine chart, originally prepared in 1931, was revised in September 1937 by Dr. Roe E. Remington, director of the South Carolina Food Research Laboratory, and may be obtained from him at 280 Calhoun Street, Charleston, South Carolina. This seventh revision takes account "of the most recent progress in vitamin research, particularly in the identification of the various factors of the B complex, including Williams' synthesis of vitamin B_1. Flavin is substituted for vitamin G and the P P factor

added. The results of vitamin deficiency have been classified as specific and non-specific, and the list of food sources checked with results appearing since the last edition." The price of a single copy is 10 cents, and special rates are offered for quantities.

As "an aid to those persons interested in the development and maintenance of abundant health," Martha M. Kramer and Bernice L. Kunerth of the division of home economics, Kansas State College, have written "Vitamins in Common Foods," which appears as Division of Home Economics Bulletin No. 11 in the series of Kansas State College Bulletins, Manhattan, Kansas.

"Vita-misers" is a word invented by the makers of a new electric range for the specially designed aluminum cookers which fit into insulated heat wells and which may serve as waterless cookers.

Alaska Salmon. In co-operation with the Pacific American Fisheries, the home economics department of the University of Alaska has worked out recipes for the use of canned salmon, the major product of the Territory. The results appear in the bulletin "Canned Salmon Delicacies" by Lola M. Cremeans, published by the University at College, Alaska.

Specifications for Canned Food. "Specifications for Purchasing Canned Fruits and Vegetables" is the title of a 21-page mimeographed document prepared by Paul M. Williams of the Bureau of Agricultural Economics and issued by the Consumers' Project of the U.S. Department of Labor. It considers details to be included, the basis of a purchase specification, deliveries, inspections, payments, and other factors, and gives a list of U. S. standards set up for grades of 30 canned fruits and vegetables.

Standardization in Australia. The Standards Association of Australia apparently corresponds to our American Standards Association, except that it was established "under the aegis of the Commonwealth and state governments" and is supported by grants both from governments and from industry and commerce. Recently it has gone into the field of consumer goods and has issued "provisional approval and test specification" for six types of electric appliances for household use.

Standards on Textile Materials. The 1937 annual report of Committee D-13 on textile materials is obtainable from the American Society for Testing Materials, 260 South Broad Street, Philadelphia, at $2 a copy. Its findings and recommendations regarding specifications, tolerances, methods of testing, definitions and terms for textiles in general or specific fibers are considered of first importance to all workers and advanced students in the field.

"The A B C's of Informative Selling." Some sixty pages of the September issue of the *Bulletin of the National Retail Dry Goods Association* were devoted to the growing idea of increasing sales and improving relations between store and customer by telling more about the goods offered. Contributors include Harold W. Brightman and other leaders in the National Retail Dry Goods Association, home economists well known for their active interest in the movement, and a variety of persons who can speak from experience on special phases of the subject. The section aroused enough interest to be reprinted as a separate with the title quoted.

Bituminous Coal. "Consumer Ideas" is the name of a new series of bulletins planned by the Consumers' Counsel of the National Bituminous Coal Commission, Washington, D. C. The first one, "How Much Heat," gives excerpts from hearings held in Washington last July and the recommendation made to the Commission by the Consumers' Counsel. It urges the adoption and promulgation for public use of standards for the description of bituminous coal based on those set up by the American Society for Testing Materials, and considers this an essential step in the stabilization of the industry.

Family Relationships in Old Testament Times. A clay tablet unearthed in Mesopotamia is said by Dr. Cyrus H. Gordon to explain hitherto troublesome points in the story of Jacob and his relations with his uncle Laban's

family. According to *Science News Letter* of December 18, the tablet gives the terms on which a man might adopt a son. These provided that if real sons were born later, the adopted son might share the inheritance, except that a real son was to receive the father's gods, possession of which apparently gave title to the chief inheritance portion and leadership of the family. This suggests that Jacob was adopted by Laban when Laban had no real son, though later others were born. When, after his 20 years of service and his various marriages to Laban's daughters and their handmaids, Jacob decided to depart with his wives and his children and the cattle he called his, Rachel secretly took the family gods so that her brothers should not be able to claim rights above Jacob's. Even with this explanation, the relations and the motives of the people in the story in Genesis 29 to 31 are confusing enough to a present-day reader.

"Cooperative Bookshelf." This is the title of a bibliography of government publications on consumer co-operation which was prepared by the Consumers' Counsel of the Agricultural Adjustment Administration and the Consumers' Project of the U. S. Department of Labor and which is issued by the Government Printing Office as Consumers' Counsel Series No. 3.

Interns in Advertising. Last autumn President Scott of Northwestern University announced a gift of $6,000 (later to be increased to $50,000) from the Advertising Foundation Fund of Chicago under which graduate students will work in business while studying at the University. According to *School and Society*, twenty scholarships have been awarded to students interested in advertising, and 19 Chicago firms are co-operating by giving the men part-time work in their advertising departments.

International Advertising Code. At the congress of the International Chamber of Commerce in Berlin last summer, the Chamber adopted a Code of Standards of Advertising Practice and established an International Council of Standards in Advertising to consider complaints of unfair dealing in advertising as affecting international transactions as defined in the above-mentioned code. A few days later the third World Advertising Convention in Paris passed a resolution supporting the Chamber in this action. Although the code deals mainly with unfair trade practices, it includes the principle of truth in advertising and specifically condemns testimonials which cannot be substantiated and misleading statements about investments and cures for disease.

Cookery Books. So abundant and so much esteemed is this gastronomic literature that the New York Public Library has found it worth while to draw up an annotated list of bibliographies of cookery books. The classifications are: general, American, English, French, German, individual, and specialized. The list will be found on pages 696 to 700 of the Library's *Bulletin* for September 1937.

Age and Stature. The relation—or lack of relation—between age in years and anatomic development was the subject of a study made by Dr. Harriet J. Kelly, Iowa Child Welfare Research Station. A technical report, entitled "Anatomic Age and Its Relation to Stature," is given in University of Iowa Studies in Child Welfare, Vol. 12, No. 5.

Home Economics Equipment in England. Two recent articles on school catering in *Education* (London) show both the resemblances and differences between school-lunch problems in England and in American schools. The first, which appeared on May 21, dealt mainly with menus; the second, which came out in July, was by E. M. Benson of the Gloucestershire Training College of Domestic Science and dealt with the plan, equipment, and operation of a school kitchen catering for 100 to 150.

NEWS NOTES

GENERAL

National Council of Jewish Women. The 45th anniversary of the founding of this organization is to be held in Pittsburgh, Pennsylvania, from January 23 to 28. The membership now runs to 45,000, divided among nearly 200 sections in the United States and Canada. Its program of work, including its legislative activities, includes several subjects also found on that of the American Home Economics Association.

Metropolitan Museum of Art. Of special interest to home economists in and near New York will be the following items from the Museum's program of educational work from February through May 1938: Saturday afternoon gallery talks (repeated Sunday afternoons) on the origins and meaning of American furniture styles by Mr. Busselle, a Sunday course on color and design by Grace Cornell and practicing experts in various fields, weekday courses on "Medieval Minor Arts" by Mr. Grier and on "Design in the Decorative Arts" and "Color" by Miss Cornell. The Museum's printed program of lectures, sent without charge to anyone requesting it, gives a detailed schedule of all lectures and courses, including those planned especially for teachers in the public schools.

Association for Childhood Education. The 45th annual meeting to be held in Cincinnati, Ohio, from April 19 to 23 is to be essentially a study conference to which students and beginning teachers are particularly invited. The convention theme is "Current Opportunities and Difficulties in Childhood Education," and this will be emphasized by speakers at the general sessions and leaders and participants in the study groups. Topics for the study classes include: "Administration," "Forms of Evaluation," "Home, School, and Neighborhood Relationships," "Organization and Grouping," and "Social Studies." Ruth Streitz of the University of Cincinnati will direct the study classes and conduct the final symposium on "The Next Step in Childhood Education." For further information, write to Mary E. Leepes, executive secretary, Association for Childhood Education, 1201 Sixteenth Street, N. W., Washington, D. C.

National Conference of Social Work. The 65th annual meeting of the Conference will be held in Seattle, Washington, from June 26 to July 2, 1938. The general secretary is Howard R. Knight, 82 North High Street, Columbus, Ohio.

Conference on Business Education. The fifth Conference on Business Education called by the University of Chicago will be held at the University's School of Business on June 30 and July 1, 1938. The specific problem to be discussed this year is "Business as a Social Institution." The first day will be devoted to such questions as just what "business as a social institution" means to business and industry, to labor, to the layman, and to educators. In the morning session, an authority in each field will discuss how it is functioning today, while the afternoon session will be devoted to the relative positions and responsibilities of government and vocational training agencies and the respective duties and obligations of government and business. The second day will be given over to education for effective participation in business as a social institution. Procedures for overcoming the economic illiteracy and the inadequate social philosophy of teachers will be outlined, and learning situations and classroom procedures for developing the concept on the elementary, secondary, and college levels will be presented for evaluation. Printed programs may be obtained from the School of Business, University of Chicago.

National Safety Congress. The 1938 Congress will be held in Chicago from October 10 to 14 with the Stevens Hotel as headquarters. Since this is the Silver Jubilee year of the

National Safety Council, it is appropriate to hold the celebration in the city which saw the Council start with two men and a tiny office 25 years ago.

Radio Calendar. As a guide to radio programs with educational value, the American Association of School Administrators (formerly the Department of Superintendence) of the N.E.A. has prepared a poster showing the name, time, and network of sustaining programs which it recommends for each day of the week. Copies for bulletin boards may be obtained by application to the American Association of School Administrators, 1201 Sixteenth Street, N. W., Washington, D. C. More detailed listing may be obtained from the National Broadcasting Company, 30 Rockefeller Plaza, New York City, and the Columbia Broadcasting System, 485 Madison Avenue, New York City.

Study of Student Eye Health. The American Student Health Association and the National Society for the Prevention of Blindness are co-operating in a study of the eye health problems of college students and in it will have the aid of an advisory committee from the American Academy of Ophthalmology. The study is undertaken because present methods for discovering students who need ophthalmic attention have proved inadequate.

Mrs. Evelyn Smith Tobey. The sudden death of Mrs. Tobey at her home in New York City on November 16 must bring a sense of personal loss to the many women who enjoyed and profited by her vivacious, friendly, practical talks on clothing or who followed the printed information service which she issued. She was for 25 years a lecturer at Teachers College, Columbia University, and was in great demand as a speaker before women's organizations all over the country.

NEBRASKA

University of Nebraska. Dr. Ruth Leverton is in charge of nutrition research.

Mrs. Andrea Johnson Overman has been appointed instructor of foods and nutrition in place of Ruth Eloise Sperry, who is on leave of absence.

Edith Carse of the housing and equipment division is on leave of absence to study housing in England.

Recent visitors to the home economics department were Mrs. Lydia Anne Lynde of the U. S. Extension Service, who addressed groups of state extension leaders, and Dr. Isabel Noble of the University of Chicago.

The Student Home Economics Association held its annual Ellen H. Richards dinner on December 2. Mrs. Ruth Davis Hill, an alumna and the guest speaker, discussed "Frontiers in Homemaking."

The new Cooperative House for the College of Agriculture girls has been named Alice Loomis Hall in honor of a former head of the home economics department.

This year the meeting of Organized Agriculture was held in December. Speakers included Dr. Regina Westcott Wieman of Chicago, a counselor and lecturer in individual and family adjustments, and Gladys Winegar, educational adviser of the Textile Education Bureau of New York City.

Vocational Education. The Vocational Education Conference in August was attended by 150 teachers and students. "Family Education" was the theme, and Dr. Ethel Waring of Cornell University was one of the leaders.

Rose Wanek, former teaching supervisor in the Lincoln public schools, is now assistant state supervisor of home economics.

Adult Education. Jean Carter, who is making a study of parent education programs for the American Association for Adult Education, visited the department of adult homemaking of the Omaha schools in the late fall.

Lincoln Public Schools. Dr. Wieman spent two days discussing education for home living with teachers, high school pupils, and parents. The meetings were sponsored by the Lincoln Public School Forum.

NEW ENGLAND

New England Home Economics Association. Marjorie Black of the National Canners Association spoke on "Canned Foods" to a well-attended joint meeting of the teachers, women in business, and homemakers sections on November 15 at the Women's Educational and Industrial Union.

The monthly nutrition seminar, conducted

by Dr. Alice Blood of Simmons College for the social workers section, has attracted wide interest from Association members in general, and many people are participating.

The Association was hostess for the luncheon meeting held at the Hotel Statler, Boston, on November 6 during the third annual Conference of Food Service Directors. The Conference had the largest registration yet reported, and everyone seemed to enjoy the full and varied program. Daisy B. Treen of the school lunchroom service, Women's Educational and Industrial Union, was local chairman of the Conference.

Student Clubs. The Louisa A. Nicholass Home Economics Club of the State Teachers College, Framingham, honored the birthday of Mrs. Ellen H. Richards on December 3 by presenting their annual International Night. A delightful addition to the program of folk music and dancing in costume was lent by the appearance of Ya lan Tsui, a Chinese student at Wellesley College. Miss Tsui spoke charmingly of the education of women in China, some of the occupations in which they are participating, and some of the traditions and customs. Foods characteristic of the countries represented on the program were sold during intermission.

NEW HAMPSHIRE

University of New Hampshire. *Student Club.* Nancy Carlisle, home demonstration agent-at-large, spoke at the December meeting of the club on the possibilities in extension work for home economics graduates.

At its annual Christmas sale, the club sold candy, fruit cake, canned goods, and jellies made by the students, also attractive woven articles from Berea, Kentucky, and a few Chinese pieces. One object of this sale is to give the girls experience in conducting such an affair.

Extension Service. Marion Davis, who formerly taught in Springfield, Vermont, has succeeded Doris Child as home demonstration agent in Sullivan County. Miss Child has accepted a similar position in Connecticut.

At the annual extension conference held at the University of New Hampshire in December, plans were completed for the work in home management, food and nutrition, and clothing. Better kitchens and safety and repairs in the home are to be stressed; the work on interior decoration will be continued, with emphasis on better lighting, color, and New Hampshire architecture; and the work on household accounts will be carried on another year. In food and nutrition, there will be projects on "Watch Your Weight," with special reference to the underweight school child; "The Quick Time Meal"; "Meats the Family Likes," with emphasis on the use of lamb and veal; and in one county considerable work on food preservation. Hints on buying are to be given in connection with each project, and shopping tours will be held in the counties where they were not conducted last year. The coat schools will be held again this year, with new patterns and garments added to the children's clothing kits which travel to the various communities and reach women who cannot attend meetings.

NEW YORK

Jefferson County Tuberculosis and Public Health Association. The project of the Association to promote community nutrition started on November 15, 1937, when Helen Osterbur began her duties as county nutritionist. She works with the county tuberculosis hospital, welfare organizations, public and parochial schools, physicians, Home Bureau units, and other agencies that wish information or consultation service. The project is a unique undertaking in the state. Miss Osterbur is its first county nutritionist.

NORTH DAKOTA

North Dakota Agricultural College. Two hundred attended the annual project meeting of Tryota, the college home economics club, on November 23 and listened to accounts of outstanding summer projects.

The home economics staff sponsored a Christmas party for all home economics students on December 16 in the clothing laboratory. The party was planned to demonstrate what can be accomplished with little expense and how, using only materials available in small towns, a classroom may be converted into an attractive Christmas setting.

Extension Service. The annual conference for extension workers was held from January 4 to 7 at the State College.

The Extension Service has recently been represented at several out-of-state meetings: by Grace DeLong, state home demonstration leader, and Audrey Martin and Magdalene Heiberg, associate county extension agents, at the American Country Life Association convention at Manhattan, Kansas; by Julia E. Brekke, extension clothing specialist, at the annual Outlook Conference in Washington, D. C.; by Alice Haley, dean of home economics, and Grace DeLong at the meeting of the Association of Land-Grant Colleges and Universities in Washington, D. C.; and by Clara K. Dugan at a regional conference of the National Council of Parent Education in Minneapolis.

Viola C. Meints, home management specialist, and Edith Jensen and Donalda MacDonald, associate county extension agents, resigned on January 1 to enter the homemaking profession as practicing homemakers.

M. Emily Freeman, for six years in the Indian Service in North Dakota and Arizona, is now associate county extension agent for Ramsey County.

State Teachers College, Dickinson. As part of a project to perfect skill in table serving and entertaining, the Home Economics Club served a faculty dinner and sponsored a reception after the Christmas Vesper Service by the music department.

Vocational Education. Iva Blosser and Eva Larson, itinerant teachers of adult homemaking, have completed a 6-week unit of classes in Carrington and New Rockford and in Park River and Grafton and an 8-week unit in Bismarck, Nandan, Dickinson, and New England. Three hundred and fifty-two women of Fargo completed a 6-week unit of which 6 local women were in charge.

Twelve new vocational homemaking departments in high schools of the state bring the total to 55, with 61 instructors.

Rua Van Horn of the U. S. Office of Education spent a week at the State College in November.

Christine Finlayson, state supervisor of home economics education, attended the meeting of the A.V.A. in Baltimore.

PENNSYLVANIA

Pennsylvania Home Economics Association. An executive committee meeting was held in Pittsburgh on December 14 to consider plans for the A.H.E.A. meeting to be held in Pittsburgh next June.

State Department of Public Instruction. Thanks to the enlargement of service made possible by the George-Deen Act, the number of county supervisors assisting the two state supervisors has been increased to 16. In a few cases, a supervisor will cover as many as 4 counties.

Twenty-five persons from the 13 institutions approved for the training of teachers of vocational home economics attended the two-day conference of vocational home economics teachers in Harrisburg on November 23 and 24. The conference, called to continue the work of the committee organized a year ago to improve and unify the teacher-training curriculums throughout the state, defined its objective as "Education for Family Living."

The home economics teachers of Montgomery County are sponsoring a two-credit social hygiene course under the direction of Dr. Mabel Lesher of Temple and New York Universities. The group enrolled consists of elementary, physical education, industrial arts, and home economics teachers.

Vocational homemaking departments have been established in the new Bok and Dobbins Vocational Schools of Philadelphia. A significant part of their program will be a home visitation plan like the one worked out successfully in the Mastbaum Vocational School.

Pennsylvania Vocational Association. As a part of the Pennsylvania State Educational Association's annual meeting in Harrisburg, the Pennsylvania Vocational Association sponsored a vocational education luncheon. Among the speakers were Dr. Freda G. Winning of New York University and Rosalind M. Jewett, president of the Pennsylvania Home Economics Association, who indicated "Significant Trends in Home Economics Education as Evidenced at the A.H.E.A. Meeting in Kansas City."

Temple University. Grace Nadig, who is organizing a program in home economics in the Khayatt School for Girls in Assuit, Egypt,

is sending the president of the Home Economics Club monthly newsletters which give a detailed account of her experiences and indicate that she is having a very profitable year.

PUERTO RICO

Puerto Rico Home Economics Association. Since Carmen Ginorio left for the States, Rosa Marina Torres has been acting president.

The eleventh annual meeting was held from November 25 to 28. Mrs. Evelyn Tobey, New York stylist, who died on November 16, was to have been the guest speaker. Last year Cora B. Miller and Regina Friant of Iowa State College were the guest speakers from the States.

The magazine drive committee headed by Elsie Mae Willsey expects to make enough money to bring the Association's loan funds to more than one thousand dollars.

University of Puerto Rico. Both faculty and students are enjoying the advantages of well-planned laboratories and lecture rooms of the new home economics building. The Home Economics Club donated the furniture for the rest room, and classes in home furnishing are in charge of its decoration and arrangement.

The University Coffee Shop, under the direction of Berta Cabanillas, was opened in November. Students are making it the rendezvous for many of their activities.

Carmen Ginorio, a staff member who is studying at Columbia University, expects to return for the spring session.

New faculty members this year are Mrs. Carmen Quirós de Mercado and Providencia Bernabe.

The new Practice House opened last July (see page 29 of the January issue) used to be the chancellor's home, but when a new one was built for him it was turned over to the home economics department. Students are enjoying it immensely, although it requires more work to run it successfully. Of especial interest is the collection it houses of popular art objects from Mexico which Rosa Marina Torres secured there last June. The home economics department celebrated its third anniversary at a garden party at the Practice House on November 13.

TENNESSEE

Tennessee Home Economics Association. In December, Hazel P. Roach, field secretary of the A.H.E.A., had an informal conference in Nashville with a group of officers and members of the Association.

George Peabody College for Teachers. While Miss Roach was at the College in December, she described at a meeting of the student clubs the work of clubs in other states and the helps offered the student group by the A.H.E.A.

State Teachers College, Memphis. The Home Economics Club has the largest membership in its history. Its activities have included a tea for the freshmen, a window-garden project, celebration of Ellen H. Richards Day, filling orders for fruit cakes, and preparing a Christmas basket for a needy family.

The methods class has been observing and making a study of the organization of classes in the city schools.

Tennessee Polytechnic Institute. Gladys Sell is head of the home economics department, and Margaret Johnson is her assistant. Mrs. Gladys Crawford, '35, is dietitian. The enrollment of home economics majors is now the second largest in the entire school.

The student club has the largest enrollment in its history. The annual tea for all freshmen and new home economics majors was held before the club initiation ceremonies.

Erwin. In the second and third year high school classes, 97 garments, including dresses, coats, suits, and culottes, have been made at a total cost of $385.31. The garments were displayed in a store window and were used in a fashion show for parents and the Unicoi County teachers.

Knox County. The high school home economics clubs in the County have formed a county council which meets each month. Each club is represented by two girls.

Oakdale. Fifteen high school girls participated in a craft course conducted as an extra class.

Paris. Each high school class prepared and delivered a Thanksgiving basket to a needy family.

Puryear. The sophomore high school class gave a tea and fashion show this fall for

mothers and P.-T.A. members. The Home Economics Club was in charge of a Thanksgiving assembly program.

TEXAS

East Texas State Teachers College. Teachers and students of home economics are interested in selecting equipment and furnishings for new quarters in the Science Building now under construction.

Homemaking students and student teachers have a special problem this year, that of making their laboratories more attractive and convenient.

North Texas State Teachers College. Myra Sowell, director of the nursery school, has been granted leave of absence for the spring semester to study at the Merrill-Palmer School. During her absence, Willie Fletcher will be in charge.

Texas State College for Women. Problems of professional interest related to home economics and general education are discussed at a seminar of graduate students and faculty members which meets once a month.

Texas Technological College. The Omega chapter of Phi Upsilon Omicron was installed at the College on November 27. The installing officer was Mabel V. Campbell, chairman of the home economics department at the University of Missouri and national Phi Upsilon councilor. The petitioning organization was Double Key, local honorary home economics society. Fifteen students, two alumnae members, and three honorary members from the local college faculty were initiated.

West Texas State Teachers College. The advanced foods class under the direction of Margaret Barrett, associate professor of foods and nutrition, is giving lectures and demonstrations to a class of C.C.C. boys located at Palo Duro Canyon. There are 12 in the class, and all of them have duties connected with the planning and preparation of camp meals.

VIRGINIA

State Department of Education. The home economics section of the Virginia Educational Association had an all-day meeting in Richmond on November 24. The program included a panel discussion on "How Are We Helping Home Economics Girls in the Development of Their Personalities?" Martha Creighton, state supervisor of home economics, was the leader, and six outstanding high school teachers were members of the panel. Maude Wallace, assistant director of extension, spoke on "What Can Home Economics Do for the Marginal and Submarginal People of Virginia?" Jessie Dunkum, teacher of Montvale High School, reported interesting work she has been doing in correlating home economics with the program of the elementary school.

The college teachers of home economics met at luncheon at the John Marshall Hotel in Richmond on November 24 and heard Martha Creighton outline plans for the enlarged state program made possible by the George-Deen funds.

WEST VIRGINIA

West Virginia Home Economics Association. The annual meeting was held in Clarksburg on November 4 and 5. The program was in charge of the chairman, Xanna Gibson, and Lena M. Charter, state supervisor of vocational home economics. The main address at Friday's session, "Progress in Home Economics," was given by Mrs. Kathryn VanAken Burns, president of the A.H.E.A. Tracy Stevens discussed "Present Trends in Housing"; Bernice Leonhart, "Family Relations"; and Alma Hunsaker, "Child Care and Development."

Officers elected were: president, Lena M. Charter, state supervisor of vocational home economics, Charleston; vice-president, Mattie Rider; secretary, Cleo Margaret Gray, Pennsboro; and treasurer, Mrs. Frances Sprigg Howard.

WISCONSIN

Wisconsin Home Economics Association. *Student Clubs.* Extensive plans have been made for 1937–38. A newsletter, a council meeting, a convention, or a rally has been scheduled for each month of the school year.

On November 4, about 250 senior high school and college girls attended the fourth annual student club convention, held in connection with the meeting of the Wisconsin Home Economics Association. Mary Brady, presi-

dent of the Association, greeted the group; then followed talks by Grace Rowntree, assistant 4-H Club leader in Wisconsin; Marie Averill of the Stout Institute, a student club delegate to the A.H.E.A. convention; and Winifred Slocombe of Birmingham, England, who told of "A Girl in English Schools." After the meeting, the club members and advisers were guests at a tea given by the Wisconsin Home Economics Association.

Milwaukee-Downer College. Hazel Rennoe of the home economics faculty will serve as chairman of the home economics section for the Western Arts Convention to be held in Milwaukee next May.

Two classes in adult education in special aspects of home economics are being sponsored by the home economics department, one a group of alumnae under Miss West's direction and the other a group of young mothers under Louise Sobye. The latter group has selected child guidance as its special subject for study.

Dorothy Holzhausen, '38, has been appointed state chairman of student clubs.

Two other seniors, Mary Louise Morton and Barbara Jones, have helped teach an N.Y.A. sewing class for girls. They worked under Irma Hochstein, who is in charge of the project at the Milwaukee Court House.

The Stout Institute. Kathryn B. Niles of the Institute of American Poultry Industries gave a poultry demonstration to the foods classes on December 9.

Louise Buchanan and two seniors attended the two-day field trip sponsored by the Chicago group of home economics women in business in November.

University of Wisconsin. On her return from the Land-Grant College Association meeting in Washington, D. C., Abby L. Marlatt visited Drexel Institute in Philadelphia, where she addressed the home economics students, and stopped in Cleveland for the meeting of the National Association of Housing Officials.

Milwaukee Home Economics Teachers' Association. An interesting program is planned for this year, including a field trip to the Greendale and Parklawn housing projects and a talk on "Personality" by Iris Roche.

Vocational Education. Dora Rude, state supervisor of homemaking, vocational, and adult education, attended the A.V.A. meeting in Baltimore in December.

WYOMING

Extension Service. All home economists on the Extension Service staff attended Dr. Carl F. Taeusch's School of Philosophy held in connection with the annual extension conference from January 10 to 13.

"Ridin' the Range for News" is a new bulletin prepared by Allene Loomis, home demonstration agent, for use of reporters in homemakers' clubs and interested extension workers.

OUR CONTRIBUTORS

Mrs. Kathryn VanAken Burns, now in her second year as president of the American Home Economics Association, is Illinois state leader of home economics extension work and assistant professor at the University of Illinois.

Dr. Ivol Spafford, a contributor also to the December 1937 JOURNAL, is assistant to the director and in charge of curriculum revision at the General College, University of Minnesota.

Beulah I. Coon, one of the JOURNAL'S advisers on its service to home economics in the public schools, is agent for studies and research in home economics education in the Office of Education, U. S. Department of the Interior.

Ralph Russell is assistant professor of agricultural economics at the University of Maryland. Among his courses is one on Food Products Inspection for which he secures specialists from the U. S. Department of Agriculture to demonstrate government grades of various food products. In 1936 he was president of the Washington, D. C., Consumers' Club.

Dr. E. Neige Todhunter, a New Zealander by birth, is associate professor of nutrition at the State College of Washington and author of "Everyday Nutrition."

Sybil L. Smith is nutrition editor of the *Experiment Station Record* and as senior experiment station administrator in the Office of Experiment Stations gives special attention to home economics research. She has been an active member of the JOURNAL'S advisory board for many years.

Prudence S. Connor has been on the staff of Syracuse University since 1929, when she organized its household technology department. She is a homemaker also and formerly taught home economics in a high school in Oberlin, Ohio, and at Ohio University.

Laura B. Hadley has been in charge of resident teacher training in home economics at Alabama College since 1936. She was formerly on the staff at Purdue University and was president of the Indiana Home Economics Association in 1935 and 1936.

V. Enid Sater, now assistant professor of household equipment at Iowa State College, did the work reported in this issue while research specialist in home economics at the State College of Washington.

E. Charlotte Rogers received her Ph.D. at the University of Missouri in 1928 and since then, with the exception of nine months in the Connecticut Extension Service, has been teaching nutrition at Connecticut State College. **Doris B. Mathews,** now a teacher of foods in a Stamford (Connecticut) junior high school, was a food and nutrition major in the division of home economics at the College when the project reported in this issue was carried on.